ExtremeWarePx™ Software Command Reference Guide

Software Version 1.2

Extreme Networks, Inc.
3585 Monroe Street
Santa Clara, California 95051
(888) 257-3000
http://www.extremenetworks.com

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Preface

This preface provides an overview of this guide, describes guide conventions, and lists other publications that may be useful.

Introduction

This guide provides the complete syntax for all the commands available in the currently-supported versions of the ExtremeWarePx software running on Px-series application switches from Extreme Networks.

This guide does not provide feature descriptions, explanations of the technologies, or configuration examples. For information about the various features and technologies supported by the Px-series application switch switches, see the installation and user guides for that product. This guide supplements, but does not replace the installation and user guides.

NOTE

If the information in the release notes shipped with your switch differs from the information in this guide, follow the release notes.

Audience

This guide is intended for use by network administrators who are responsible for installing and setting up network equipment. It assumes a basic working knowledge of the following:

- Local area networks (LANs)
- Ethernet concepts
- Ethernet switching and bridging concepts
- Routing concepts
- Internet Protocol (IP) concepts, including connection initiation process
- Network Address Translation (NAT)

This guide also assumes that you have read the *Px Series Application Switch Installation and User Guide*.

Conventions

Table 1 and Table 2 list conventions that are used throughout this guide.

Table 1: Notice Icons

Icon	Notice Type	Alerts you to...
	Note	Important features or instructions.
	Caution	Risk of personal injury, system damage, or loss of data.
	Warning	Risk of severe personal injury.

Table 2: Text Conventions

Convention	Description
`Screen displays`	This typeface indicates command syntax, or represents information as it appears on the screen.
`User input` `in examples`	In examples of user interaction with the command-line interface, user input is shown in **`boldface`**.
The words “enter” and “type”	When you see the word “enter” in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says “type.”
[Key] names	Key names are written with brackets, such as [Return] or [Esc].
	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example:
	Press [Ctrl]+[Alt]+[Del].
Words in *italicized* type	Italics emphasize a point or denote new terms at the place where they are defined in the text.

Related Publications

The publications related to this one are:

- *ExtremeWare Software User Guide*
- *Px Series Application Switch Installation and Configuration Guide*
- *Px Series Application Switch Release Notes*

Documentation for Extreme Networks products is available on the World Wide Web at the following location:

http://www.extremenetworks.com/

1 Command Reference Overview

Structure of this Guide

This guide documents each ExtremeWarePx command. Related commands are grouped together and organized into chapters based on their most common usage. The chapters reflect the organization of the *Px Series Application Switch Installation and Configuration Guide*. If a specific command is relevant to a wide variety of functions and could be included in a number of different chapters, we have attempted to place the command in the most logical chapter. Within each chapter, commands appear in alphabetical order. You can use the Index of Commands to locate specific commands if they do not appear where you expect to find them.

For each command, the following information is provided:

- Command Syntax: The actual syntax of the command. The syntax conventions (the use of braces or curly brackets, for example) are defined in the section "Understanding Command Syntax" on page 14.
- Description: A brief (one sentence) summary of what the command does.
- Syntax Description: The definition of any keywords and options used in the command.
- Default: The defaults, if any, for this command. The default can be the default action of the command if optional parameters are not provided, or it can be the default state of the switch (such as for an enable/disable command).
- Usage Guidelines: Information to help you use the command. This may include prerequisites, prohibitions, and related commands, as well as other information.
- Example: Examples of the command usage, including output, if relevant.
- History: The version of ExtremeWare in which the command was introduced, and version(s) where it was modified, if appropriate.
- Platform Availability: The platforms on which the command is supported.

Understanding Command Syntax

In describing command syntax, this manual uses symbols as described in Table 3. These symbols explain how to enter the command, and you do not type them as part of the command itself.

Table 3: Command Syntax Symbols

Symbol	Description
angle brackets < >	Enclose a variable or value. You must specify the variable or value. Do not type the angle brackets. For example, in the syntax `configure vlan <name> ipaddress <IP address>` you must supply a VLAN name for <name> and an address for <IP address> when entering the command.
vertical bar |	Separates mutually exclusive items in a list, only one of which may be entered. Do not type the vertical bar. The alternatives are generally enclosed in parentheses, square brackets, or braces, as described below. For example, in the syntax `configure snmp community [read-only | read-write] <string>` you must specify either the read or write community string in the command.
parentheses ( )	Used to group items into a single element (often used with the vertical bar |). Do not type the parentheses. For example, in the syntax `reboot {(<date> <time>) | cancel}` you can optionally specify either a particular date and time combination, or the keyword `cancel` to cancel a previously scheduled reboot. If you do not specify a parameter, the command will prompt asking if you want to reboot the switch now.
square brackets [ ]	Enclose a required value or list of required parameters. One or more values or parameters can be specified. Do not type the square brackets. For example, in the syntax `use image [primary | secondary]` you must specify either the primary or secondary image when entering the command.
braces { }	Enclose an optional value or a list of optional parameters. Do not type the braces. One or more values or parameters can be specified. For example, in the syntax `reboot {(<date> <time>) | cancel}` you can optionally specify either a particular date and time combination, or the keyword `cancel` to cancel a previously scheduled reboot. If you do not specify a parameter, the command will prompt asking if you want to reboot the switch now.

Using the Command-Line Interface

The command-line interface displays a command prompt when it is ready to accept a command input. To issue a command:

1. Enter the command name at the command prompt. You can use abbreviated syntax; see "Abbreviated Syntax" on page 16.
2. If the command includes parameters, enter each parameter name and its value, in the appropriate order.

   A parameter's value specifies how you want the parameter to be set. Values can be numbers, strings, or addresses, depending on the parameter.
3. After entering the complete command, press [Return] or [Enter].

When entering a command at the prompt, ensure that you have the appropriate privilege level. Most configuration commands require you to have the administrator privilege level.

NOTE

Most commands are not executed immediately, but are deferred until you issue the `build` *command. Exceptions are noted when the commands are described in this manual.*

Prompt Text

The text of the command prompt includes the SNMP `sysname` setting. Initially, this text is the name of the switch. Following the system name is a colon and a number that indicates the sequential line/command number. The prompt ends with > if you are logged in with user-level privileges, and with # if you are logged in with administrative privileges.

NOTE

An asterisk (*) appearing in front of the command-line prompt, indicates that you have outstanding configuration changes that have not been saved. with the `save configuration` *command.*

The following command prompt indicates that the user has administrative privileges and has issue 18 previous commands, including at least one change to the configuration that has not been saved:

```
* SummitPx1:19 #
```

Line-Editing Keys

Table 4 describes the line-editing keys available when using the command-line interface.

Table 4: Line-Editing Keys

Key(s)	Description
Backspace	Deletes character to left of cursor and shifts remainder of line to left.
Delete or [Ctrl] + D	Deletes character under cursor and shifts remainder of line to left.
[Ctrl] + K	Deletes characters from under cursor to end of line.
Insert	Toggles the insert mode on and off. When insert mode is toggled on, new text is inserted at the cursor; any existing text following the cursor is shifted to right. When insert mode is toggled off, new text overwrites any existing text following the cursor.
Left Arrow	Moves cursor to left.
Right Arrow	Moves cursor to right.
Home or [Ctrl] + A	Moves cursor to first character in line.
End or [Ctrl] + E	Moves cursor to last character in line.
[Ctrl] + L	Clears screen and movers cursor to beginning of line.
[Ctrl] + P or Up Arrow	Displays previous command in command history buffer and places cursor at end of command.
[Ctrl] + N or Down Arrow	Displays next command in command history buffer and places cursor at end of command.
[Ctrl] + U	Clears all characters typed from cursor to beginning of line.
[Ctrl] + W	Deletes previous word.

Specifying Text Values

When specifying a text values, such as health-check objects, return strings, and URL patterns, it is recommended that you always use double quotes to delimit the text value. You *must* use quotes if the text value includes any non-alphanumeric characters, such as spaces, dashes, or dots.

Abbreviated Syntax

Abbreviated syntax is the shortest unambiguous allowable abbreviation of a command or parameter. Typically, this is the first three letters of the command. If you do not enter enough letters to allow the switch to determine which command you mean, the syntax helper will provide a list of the options based on the portion of the command you have entered; see "Command Completion with Syntax Helper" on page 16.

NOTE

When using abbreviated syntax, you must enter enough characters to make the command unambiguous and distinguishable to the switch.

Command Completion with Syntax Helper

The command-line interface has a built-in syntax helper. If you are unsure of the complete syntax for a particular command, enter as much of the command as possible and press [Tab]. The syntax helper provides a list of options for the remainder of the command, and places the cursor at the end of the command you have entered so far, ready for the next option.

The syntax helper also provides assistance if you have entered an incorrect command.

Command History

ExtremeWarePx keeps a history of the last 49 commands you entered. You can display a list of these commands by using the following command:

```
history
```

2 Commands for Managing the Switch

This chapter describes the following commands:

- Commands for creating and managing accounts
- Commands for configuring VLANs, SNMP, and DNS client servers
- Commands for using Secure Shell 2 (SSH2)
- Miscellaneous utility command for:
  - Checking basic connectivity
  - Logging
  - Configuring a startup banner
  - Using the GlobalPx Content Director

build

```
build
```

Description

Executes all pending commands issued since the last build.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

Most commands are not executed immediately, but are deferred until you issue a `build` command. After making any configuration changes, you must issue the `build` command to commit those changes.

Example

In this example, the first three commands (numbered 11 through 13) change the SNMP configuration. These changes do not take effect until the `build` command (number 14) commits them.

```
SummitPx1:11 # configure snmp sysName "balancer"
* SummitPx1:12 # configure snmp sysLocation "Exodus Colo"
* SummitPx1:13 # configure snmp sysContact "Web Admin"
* SummitPx1:14 # build
** Configuring proxy-ip

** Configuring server table

** Configuring server-group table

** Configuring service table

** Updating Health List tables

** Updating self audit parameters.

** Updating Snmp Parameters.

** Gigabit port enabled

** Updating VRRP parameters.

** Updating autosync parameters.
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

clear log

```
clear log {static}
```

Description

Clears the application-switch internal log.

Syntax Description

static	If `static` is specified, the critical log messages are also cleared.

Default

N/A.

Usage Guidelines

The application-switch log tracks all configuration and fault information pertaining to the device. The switch maintains 200 messages in its internal log. By default, log entries that are assigned a critical or warning level remain in the log after a switch reboot. Issuing a `clear log` command does not remove these static entries. To remove log entries of all levels (including warning or critical), use the `clear log static` command.

Example

This example clears all log messages, including critical and warning log messages, from the application switch's internal log:

```
SummitPx1:8 # clear log static
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

clear session

```
clear session <number>
```

Description

Forces a specific Telnet or ssh session to close.

Syntax Description

number	The number of the session to be closed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can issue the `show session` command to see what sessions are active and find the session number of the session to close.

Example

This example display session information to find the number for the Telnet session, then closes that session.

```
station2:32 # show session
     #  Time since Login            User     Type        Auth        Location
================================================================================
*     0  02:11:13  0 days  0 yrs     admin    console     local       serial
      6  00:00:03  0 days  0 yrs     admin    telnet      local       10.10.10.16
station2:33 # clear session 6
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

clear stats

```
clear stats
```

Description

Clears all the statistics counters

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command clears all the statistics counters:

```
clear stats
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

cls

```
cls
```

Description

Clear the console screen.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command clears the console screen.

```
cls
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure account

```
configure account <user account> {encrypted} {<password>}
```

Description

Configures a user account password.

Syntax Description

user account	An existing user account name.
encrypted	Specifies that the password should be encrypted when the configuration is uploaded to a file. Should not be used through the command-line interface. This option is for use only by the switch when generating an ASCII configuration file.
password	A user password, which can be up to 31 characters in length and is case sensitive. If you omit the password, the switch will prompt for interactive entry of the password.

Default

N/A.

Usage Guidelines

You must create a user account (with the `create account` command) before you can configure a user account.

You must have administrator privileges to change passwords for accounts other than your own.

You should not use the `encrypted` option when you enter a command interactively. This option is used by the switch when generating an ASCII configuration file (using the `upload configuration` command), and parsing a switch-generated configuration file (using the `download configuration` command).

If you do not specify the password on the command line, the switch will prompt you to enter the password, and will then prompt you to reenter the password to verify that you have entered it correctly. Your keystrokes are not echoed as you enter and reenter the new password. Assuming you enter the same password in response to both prompts, the password is changed.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command defines a new password for the account `admin`:

```
SummitPx1:3 # configure account "admin"
password:
Reenter password:
```

The following command defines a new password, `Extreme1`, for the account `user`:

```
SummitPx1:4 # configure account "user" Extreme1
```

A configuration file may contain the following command:

```
configure account "foo" encrypted "eo2JTd$WKJ2FUOwZzRhCbjFxn2U3/"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure banner

```
configure banner
```

Description

Configures the banner string that is displayed display after each reboot.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You will be prompted for the banner; at the prompt, type the banner message. You can enter up to 24 lines of up to 79 characters each. For a banner consisting of multiple lines of text, type `[Return]` to end one line and begin the next. To terminate banner input, type `[Return][Return]`.

If you want to clear the existing banner without entering a new one, type `[Return]` when prompted for the banner.

Example

The following command configures the banner to be *Welcome to the switch*.

```
config banner [Return]
Welcome to the switch
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure dns-client add

```
configure dns-client add <IP address>
```

Description

Adds a DNS name server to the available server list for the DNS client.

Syntax Description

IP address	The IP address of the DNS name server to be added.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command specifies that the switch use the DNS server 10.1.2.1:

```
configure dns-client add 10.1.2.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure dns-client default-domain

```
configure dns-client default-domain <domain_name>
```

Description

Configures the domain that the DNS client uses if a fully qualified domain name is not entered.

Syntax Description

domain_name	A default domain name.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Sets the DNS client default domain name to the specified domain name. The default domain name will be used to create a fully qualified host name when a domain name is not specified. For example, if the default domain name is set to "food.com" then when a command like "`ping dog`" is entered, the ping will actually be executed as "`ping dog.food.com`".

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command configures the default domain name for the server:

```
configure dns-client default-domain xyz_inc.com
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure dns-client delete

```
configure dns-client delete <IP address>
```

Description

Removes a DNS name server from the available server list for the DNS client.

Syntax Description

IP address	The IP address of the DNS name server to be removed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command removes a DNS server from the list:

```
configure dns-client delete 10.1.2.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure gslb

```
configure gslb ipaddress <IP address> service <string>
```

Description

Configures a virtual service to be used by the GlobalPx Content Director scheduler.

Syntax Description

IP address	The VIP of the virtual service to be used by the GlobalPx Content Director scheduler.
string	The virtual host name used for this VIP; this virtual host name must also be set the scheduler.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Extreme Networks GlobalPx Content Director™ is a DNS-based Internet traffic-management system. This system allows you to take advantage of network and server resources regardless of their location on the Internet or your Intranet. As you add *points of presence* (POPs, clusters of one or more Px-series switches) to a network, GlobalPx Content Director monitors server loads and network response latencies, distributing client requests to the POP that it determines will deliver the best performance. GlobalPx Content Director improves client access performance and reliability by leveraging dispersed network resources.

The GlobalPx Content Director transparently directs clients and client DNS servers to the most appropriate POP to satisfy client requests. Typically, the physically closest POP is the one that gives the fastest response. However, this is not always the case. The GlobalPx Content Director *scheduler* routes requests to the optimal POP. The scheduler is a separate program that runs on a Windows or Solaris machine. When the scheduler is in use, virtual services are not automatically used by the scheduler. You must issue this command for any virtual service that you want to be used by the scheduler. You must also configure the service in the scheduler itself. For more information, see the *GlobalPx Content Director Installation and User Guide*.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example configures a virtual service to be used by the scheduler.

```
SummitPx1::12 # config gslb ip 10.10.45.12 service yosemite.cnd.myhost.com
SummitPx1::13 # enable gslb
SummitPx1::14 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure iparp delete

```
configure iparp delete <IP address>
```

Description

Updates a server's entry in the IP Address Resolution Protocol (ARP) table.

Syntax Description

IP address	The IP address of the server.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command:

1. Removes the MAC address of the specified server from the ARP table.
2. Forces an ARP to the server to find the server's current MAC address.
3. Adds a new entry to the table with the server's IP address and the correct MAC address.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command updates the ARP entry for the server with IP address 3.4.5.6:

```
configure iparp delete 3.4.5.6
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure log display

```
configure log display {fatal | errors | warning | info}
```

Description

Configures the severity level of log messages that are recorded in the internal log and logged by the remote `syslog` host.

Syntax Description

fatal	Log fatal messages only.
errors	Log messages at the error level and higher (non-fatal and fatal error messages)
warning	Log messages at the warning level and higher (warnings, non-fatal error messages, and fatal error messages)
info	Log messages at the informational level and higher (non-fatal error messages, and fatal error messages)
	This option produces a very large number of messages; it is recommended only while you are debugging certain problems.

Default

By default, messages at the warning level and higher are logged.

Usage Guidelines

You must have administrator privileges to issue this command.

This command specifies the minimum severity level for messages to be logged. Messages at and above the indicated level are recorded in the internal log. To enable displaying log messages on the console, use the `enable log display` command. To enable remote logging, use the `enable syslog` command and the `configure syslog` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables the display of non-fatal and fatal error messages to the console.

```
SummitPx1::12 # enable log display
* SummitPx1::12 # configure log display error
* SummitPx1::12 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure mgmt ipaddress

```
configure mgmt ipaddress <IP address>
  [(/ <mask length>) | (network-mask <netmask>)}
```

Description

Assigns an IP address to the switch's 10/100BT Ethernet management port.

Syntax Description

IP address	IP address for the management port.
mask length	The number of bits set in the subnetwork mask.
netmask	The subnetwork mask.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

The 10/100BT Ethernet management port provides dedicated remote access to the application switch using TCP/IP. It supports Telnet using the command-line interface. The 10/100BT port is designed to be used as an *out-of-band management port only*. It does not function as a load balancing port.

If you want to use the management interface, you must issue this command assign the port an IP address and subnetwork mask. You can specify the subnetwork mask by giving either the number of bits set in the mask or the mask itself. For example, the following two commands are identical:

```
configure mgmt ipaddress 10.1.1.10 / 24
configure mgmt ipaddress 10.1.1.10 network-mask 255.255.255.0
```

The configuration of management-port information is executed immediately; you do not need to issue the `build` command for this command to take effect.

Example

The following command configures the management port.

```
configure mgmt ipaddress 10.1.1.10 / 24
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure mgmt iproute

```
configure mgmt iproute
  dest-ip <destination IP address>
  gateway <gateway IP address>
```

Description

Installs a host route in the routing table for the switch's 10/100BT port.

Syntax Description

destination IP address	The destination IP address.
gateway IP address	The gateway IP address.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

The 10/100BT port has a separate routing table. By default, no routes are installed in the routing table. You must explicitly configure routes using this command. After you configure the IP address for the management port with the `configure mgmt ipaddress` command, you can issue this command to install a host route. You can add as many routes as you need.

This command adds an entry to the routing table indicating that traffic for `destination IP address` should be directed to `gateway IP address`.

NOTE

The gateway IP address much be on the management port subnet.

The configuration of management-port information is executed immediately; you do not need to issue the `build` command for this command to take effect.

Example

This example configures an IP address for the management port and installs two host routes:

```
station1:4 # config mgmt ipaddress 10.10.10.2 / 24
* station1:5 # config mgmt iproute dest-ip 10.10.10.60 gateway 10.10.10.1
* station1:6 # config mgmt iproute dest-ip 10.10.11.60 gateway 10.10.10.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure port gigabit auto

```
configure port gigabit auto [on | off]
```

Description

Configures auto-negotiation on the Gigabit port.

Syntax Description

on	Specifies that auto-negotiation should be enabled.
off	Specifies that auto-negotiation should be disabled.

Default

Auto-negotiation on the Gigabit port is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables auto-negotiation:

```
configure port gigabit auto off
```

The following command enables auto-negotiation:

```
configure port gigabit auto on
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure snmp add community

```
configure snmp add community
  [readonly | readwrite]
  <alphanumeric string>
```

Description

Adds an SNMP read or read/write community string.

Syntax Description

readonly	Specifies read-only access to the system.
readwrite	Specifies read and write access to the system.
alphanumeric string	The SNMP community string to be added. An SNMP community string can contain up to 127 characters.

Default

The default read-only community string is `public`. The default read/write community string is `private`.

Usage Guidelines

You must have administrator privileges to issue this command.

Community strings provide a simple method of authentication between the application switch and a remote network manager.

There are two types of community strings on the application switch.

- Read community strings provide read-only access to the application switch. The default read-only community string is `public`.
- Read-write community strings provide read and write access to the application switch. The default read-write community string is `private`.

You can configure up to 14 read-only strings and up to 14 read-write strings on the application switch. This command allows you to add community strings in addition to the two default community strings.

An authorized trap receiver must be configured to use the correct community strings on the switch for the trap receiver to receive switch-generated traps. You can configure the community string for a trap receiver with the `configure snmp add trapreceiver` command.

Changes made by this command are executed immediately and do not require the `build` command.

Example

The following command adds a read/write community string with the value `extreme`:

```
configure snmp add community readwrite "extreme"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure snmp add trapreceiver

```
configure snmp add trapreceiver <IP address>
  {community <community string>}
  {port <udp_port>}
```

Description

Adds a trap receiver to the trap receiver list.

Syntax Description

IP address	The IP address of the SNMP trap receiver to add. The IP address can be unicast, multicast, or broadcast.
community string	The community string of the trap receiver.
udp_port	A UDP port to which the trap should be sent. Default is 162.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

An authorized trap receiver can be one or more network management stations on your network. Authorized trap receivers must be configured on the switch for the trap receiver to receive switch-generated traps. The switch sends SNMP traps to all trap receivers.

Changes made by this command are executed immediately and do not require the `build` command.

Example

The following command adds the IP address 10.101.0.100 as a trap receiver with community string `purple`:

```
configure snmp add trapreceiver 10.101.0.100 community "purple"
```

The following command adds the IP address 10.101.0.105 as a trap receiver with community string *green,* using port 3003:

```
configure snmp add trapreceiver 10.101.0.105 community "green" port 3003
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure snmp delete community

```
configure snmp delete community
  [readonly | readwrite]
  <alphanumeric string>
```

Description

Deletes an SNMP read or read/write community string.

Syntax Description

readonly	Specifies read-only access to the system.
readwrite	Specifies read and write access to the system.
alphanumeric string	The SNMP community string to be deleted.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can use this command to remove a community string that was added with the `configure snmp add community` command.

Changes made by this command are executed immediately and do not require the `build` command.

Example

The following command deletes the read/write community string `extreme`:

```
configure snmp delete community readwrite "extreme"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure snmp delete trapreceiver

```
configure snmp delete trapreceiver <IP address>
```

Description

Deletes a trap receiver from the trap receiver list.

Syntax Description

IP address	The IP address of the SNMP trap receiver to delete.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can use this command to remove a trap receiver that was added with the `configure snmp add trapreceiver` command.

Changes made by this command are executed immediately and do not require the `build` command.

Example

The following command removes the trap receiver with IP address 10.101.0.100:

```
configure snmp delete trapreceiver 10.101.0.100
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure snmp syscontact

```
configure snmp syscontact <alphanumeric string>
```

Description

Configures the name of the system contact.

Syntax Description

alphanumeric string	A system contact name. A maximum of 255 characters is allowed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

The system contact is a text field that enables you to enter the name of the person(s) responsible for managing the application switch.

Changes made by this command are executed immediately and do not require the `build` command.

Example

The following command defines Fred Jones as the system contact:

```
configure snmp syscontact "Fred Jones"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure snmp syslocation

```
configure snmp syslocation <alphanumeric string>
```

Description

Configures the location of the switch.

Syntax Description

alphanumeric string	The switch location. A maximum of 255 characters is allowed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Use this command to indicate the location of the switch.

Changes made by this command are executed immediately and do not require the `build` command.

Example

The following command configures a switch location name on the system:

```
configure snmp syslocation "Engineering Lab"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure snmp sysname

```
configure snmp sysname <alphanumeric string>
```

Description

Configures the system name of the application switch.

Syntax Description

alphanumeric string	A device name. A maximum of 32 characters is allowed.

Default

The default system name is the model name of the application switch (for example, `SummitPx1`).

Usage Guidelines

You must have administrator privileges to issue this command.

You can use this command to change the name of the switch. The system name appears in the prompt for the command-line interface.

Changes made by this command are executed immediately and do not require the `build` command.

Example

The following command names the switch:

```
configure snmp sysname "Engineering-Lab"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure ssh2 key

```
configure ssh2 key
```

Description

Generates an authentication key for SSH2 sessions from character that you enter interactively.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Before the switch can accept incoming SSH2 sessions, it must have an authentication key. This command causes the switch to generate its authentication key from a sequence of characters that you enter.

NOTE

Generating an authentication key takes a long time! The key-generation process cannot be cancelled; your console may be unavailable for 10 to 40 minutes after you issue this command.

When you issue this command, you will be asked to confirm that you want to generate the key in spite of the delay. If you confirm, you will be prompted to enter a random sequence of characters. You type [Return][Return] to end input.

When the key has been generated, the characters you entered are stored in the configuration. You should save your configuration to a file with the `upload configuration` command.

To set the authentication key to a key that was generated previously, use the `configure ssh2 key pregenerated` command instead of this command.

Changes made by this command are executed immediately and do not require the `build` command.

Example

This example generates an authentication key.

```
SummitPx1::3 # config ssh2 key
WARNING: Generating new server host key
         This will take from 10-40 minutes and cannot be canceled.  Continue? (y/n)y
Enter some random characters.  End with a newline
MIICWwIBAAKBgQCoH4QkIDU+4zyNXRDE2xrdfQ19vTG3/UR2s1QisbuDI82cbeJ
c5FmT+yOhxlqgKoKKm65YMY9hFqA4Ri7NT6FU62uBxquQsyqey7/M0cI45GyWe/
sw6GtXmIIIT3/SOPmQbPpAdx4DD2S3ZiYGOpCfkDBCumGHn8rGd1lCBRCQIBIwK
gFtETwxL/6XL0Gn/Uj76mY4t8WGD9msxt3OjLaxvHKZGotFC90pUrgRXReb44el
ygWEv8O4MRoUpii0tad0rOhpcIfGU1tCutDwy1J7pxyNisQp/wHwBvV4cNVnWNM
wJRZ1WpRqJ0GYNMRWqqgpwsCAA2bWrU9iYP4X+PwuSlbAkEA0BonV3bG1sJeYqS
7ZAsN/JLh/kkCYy3W2bewz8aEPoIuIK4E9cgJOuxCMbNabHbywH+XogfTnKXFKl
JcLMtQJBAM7RtP7vZ7s45icT4s2463D+GGmnwxfF1UZQSKxe34uQ4WN0OMPexK+
b5v7F0gE0+pwLvM/zSLGtduvK7Lte4UCQQCgiTRKyVePuoNTaQLb1Z50TTLz3XO
VpwTT1tjazFdja70vJyhl1NProFBSOearcbPzlaDcFKqOyQXQMyoGe5fAkEAwwA
8F4RWMCefJ24lhTAuv40RlxY2+ZqAHeU+krSxWtYKpIm5JA1yhAYxkSDqk2x3Qq
7Kneq8Krd1wEoWORtwJAeCLpzVkaLiV9M3kiEZmY87nmSTeRzllI6+go/R1BNsM

Stirred in 800 bytes.
Generating 1024-bit dsa key pair
  2 Oo..oOo.oOo.
Key generated.
Extreme Networks SSH Key

SummitPx1::3 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure ssh2 key pregenerated

```
configure ssh2 key pregenerated
```

Description

Sets the session's authentication key for SSH2 sessions to a pregenerated key.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Before the switch can accept incoming SSH2 sessions, it must have an authentication key. This command set the authentication key to a key that was generated previously.

Typically you do not issue this command interactively. Instead, you generate a key with the `configure ssh2 key` command, then issue the `upload configuration` command to write your configuration to a file. The resulting configuration file contains a `configure ssh2 key pregenerated` command that specifies the sequence of characters from which the key was generated. When you later load the configuration file (using the `download configuration` command), the `configure ssh2 key pregenerated` command is executed.

If you do issue this command interactively, you will be prompted to enter the sequence of characters from which the key was generated. Typically, you paste in text that you copied from a configuration file that you saved after generating the key initially.

Changes made by this command are executed immediately and do not require the `build` command.

Example

A configuration file contains the following commands:

```
#-------------------------------------------------------------
# SSH configuration
#-------------------------------------------------------------
configure ssh2 key pregenerated
P2/56wAAAgIAAAAmZGwtbW9kcHtzaWdue2RzYS1uaXNDODNoYTF9LGRoe3BsYWlufX0AAAAEbm9uZQAA
AcQAAAHAAAAAAAAABADaeKQS+67eOAhWC9SN0nVaQ87qb1P0PWDWG9LcPi3eYNWMQweZxbYLGkrSDY0b
C2foklDbmLFitL7oqof4ZWkgbFBIpex0Gy1W8CyHKHF2Njp2hIsIWoj+EhYfSYhC9NBWx6UHhXnCftB9
3tvdwCaeUKC6SOZ6t1YTcTpukf6xQwAABAC0biSqDVP8ygZynBjwR4OWhYrUrEaDiNgThIsb4yVo/VWf8GotiY5b
kpZGOIOheNuX78uSMHiI/U9hssvNjzr/X8k/rQb2rbVj+ZP+D30TPLFzrml49zdnzTnZIZhdnVE21Wwz
XcTdP26xGeeKQ2gjWp/Ws0Ob3HCIAdZTR64WsQSvCaKOhAAAKDTTgW8rqrpJjgcPB3YdIwL6cL8dwAA
BADZWUEouEqCnNOS85SCXyUH5SVQxWvkUJgqfoS3XnDrUg5nR0CkNrO1LvM1Gf904v2FxJ3IbBBG+bpmrloYFT
3XAcKWq89e7iDcEToO0vP+Ie9HdX7kR04olYuxHa1eoJrvFYotLnnsSI6DTmKQrRPgHtXKAeXTGCGNiu
iQydg4KHgrGO1QAAAKCJGtuwT9jt9Jo9uUyGoDV9/pHArQ==
```

```
enable ssh2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure syslog

```
configure syslog ipaddress <IP address>
```

Description

Configures the syslog host address.

Syntax Description

IP address	The IP address of the syslog host.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

A log maintained remotely on a syslog host can preserve log messages that would be lost from the internal log, which contains only the 200 most recent messages.

To enable remote logging, you must issue the `enable syslog` command.

By default, warnings and more serious messages are logged. To log messages of a different severity level, use the `configure log display` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables logging to a remote syslog host:

```
SummitPx1::12 # enable syslog
* SummitPx1::13 # configure syslog ipaddress 10.1.1.1
* SummitPx1::13 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure system-ip

```
configure system-ip <IP address>
  [(/ <mask length>) | (network-mask <netmask>)]
  {vlan <vlan tag number>}
```

Description

Configures the system IP address.

Syntax Description

IP address	IP address for the switch
mask length	The number of bits set in the network mask.
netmask	The network mask.
vlan tag number	The VLAN tag for the switch.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

To configure the switch, you must specify its IP address and network mask. You can specify the network mask by giving either the number of bits set in the mask or the network mask itself. For example, the following two commands are identical:

```
configure system-ip 64.1.1.10 / 24
configure system-ip 64.1.1.10 network-mask 255.255.255.0
```

You may optionally specify a VLAN for the switch. The Px series application switch supports up to 4,096 VLANs. The system IP and proxy IPs must reside in the same VLAN; VIPs and servers can be on any VLAN. The application switch identifies VLANs with 802.1q VLAN ID numbers rather than names.

If you plan to configure the system VLAN on the application switch, you must enable VLANs on the configuration switch with the `enable vlan` command before you issue the configure system-ip command.

For the SummitPx1, before configuring the VLAN for the application switch, you must enable VLAN tagging on the switch port connected to the application switch, and add the VLANs you need to the port, using the manufacturer's instructions.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables VLANs on the application switch then configures the IP address, network mask, and system VLAN.

```
SummitPx1:1 # enable vlan
* SummitPx1:2 # config system-ip 64.1.1.10 / 24 vlan 100
* SummitPx1:3 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

create account

```
create account [admin | user] <username> {encrypted} {<password>}
```

Description

Creates a new user account.

Syntax Description

admin	Specifies administrator-level privileges for the account. An administrator-level account can: • View and change all switch parameters • Add and delete users • Change the password associated with any account
user	Specifies user-level privileges for the account. A user-level account can: • View (but not change) all manageable parameters except the user account database and the SNMP community strings • Issue the `ping` command. • Change the password assigned to the account
username	A new user account name, which can be up to 31 characters in length and is case sensitive.
encrypted	Specifies that the password should be encrypted when the configuration is uploaded to a file. Should not be used through the command-line interface. This option is for use only by the switch when generating an ASCII configuration file.
password	A user password, which can be up to 31 characters in length and is case sensitive.

Default

By default, the switch is configured with two accounts, `admin` has administrator-level privileges and cannot be deleted; `user` has user-level privileges.

You can use this command to create additional accounts.

You should not use the `encrypted` option when you enter a command interactively. This option is used by the switch when generating an ASCII configuration file (using the `upload configuration` command), and parsing a switch-generated configuration file (using the `download configuration` command).

Default accounts do not have passwords assigned to them; you can change an account's password with the `configure account` command.

Usage Guidelines

You must have administrator privileges to issue this command.

The application switch can have a total of 16 management accounts.

You must have administrator privileges to change passwords for accounts other than your own. User names and passwords are case-sensitive.

If you do not specify the password on the command line, the switch will prompt you to enter the password, and will then prompt you to reenter the password to verify that you have entered it correctly. Your keystrokes are not echoed as you enter and reenter the new password. Assuming you enter the same password in response to both prompts, the password is changed.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command creates a new account named John2 with administrator privileges:

```
create account admin "john2"
```

The configuration file can contain the following command:

```
create account admin "chuck" encrypted "eo2JTd$WKJ2FUOwZzRhCbjFxn2U3/"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

delete account

```
delete account <username>
```

Description

Deletes a user account.

Syntax Description

username	The user account to be deleted.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You may not delete the `admin` account.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command deletes account `john2`:

```
delete account john2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable clipaging

```
disable clipaging
```

Description

Disables pausing at the end of each show screen.

Syntax Description

This command has no parameters or options.

Default

Command-line interface (CLI) paging is enabled by default.

Usage Guidelines

The command-line interface is designed for use in a VT100 environment. Most `show` command output will pause when the display reaches the end of a page. This command disables the pause mechanism and allows the display to print continuously to the screen.

NOTE

Press [q] and then press [Return] to force a pause when command-line interface *paging is disabled.*

Example

The follow command disables command-line interface paging and allows you to print continuously to the screen:

```
disable clipaging
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable gslb

```
disable gslb
```

Description

Stops the GlobalPx Content Director agent on the Px series application switch.

Syntax Description

This command has no parameters or options.

Default

By default, the GlobalPx Content Director agent does not run.

Usage Guidelines

You must have administrator privileges to issue this command.

Extreme Networks GlobalPx Content Director™ is a DNS-based Internet traffic-management system. This system allows you to take advantage of network and server resources regardless of their location on the Internet or your Intranet. As you add *points of presence* (POPs, clusters of one or more Px-series switches) to a network, GlobalPx Content Director monitors server loads and network response latencies, distributing client requests to the POP that it determines will deliver the best performance. GlobalPx Content Director improves client access performance and reliability by leveraging dispersed network resources. For more information, see the *GlobalPx Content Director Installation and User Guide*.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command stops the GlobalPx Content Director agent (which was started by the `enable gslb` command.

```
disable gslb
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable log display

```
disable log display
```

Description

Disables display of log message to the console.

Syntax Description

This command has no parameters or options.

Default

Display of log messages is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

Although log messages are not displayed, they are still recorded in the internal log of the application switch.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example disables the display log messages to the console.

```
SummitPx1::12 # disable log display
* SummitPx1::13 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable port gigabit

```
disable port gigabit
```

Description

Disables the Gigabit port.

Syntax Description

This command has no parameters or options.

Default

The Gigabit port is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables the Gigabit port.

```
disable port gigabit
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable self-audit

```
disable self-audit
```

Description

Disables the internal self-audit.

Syntax Description

This command has no parameters or options.

Default

Internal self-audit is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

Internal self-audit is the internal hardware-check mechanism. To see whether internal self-audit is enabled, use the `show self-audit` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables internal self-audit:

```
disable self-audit
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable snmp access

```
disable snmp access
```

Description

Disables SNMP on the switch.

Syntax Description

This command has no parameters or options.

Default

SNMP access is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

Disabling SNMP access does not affect the SNMP configuration (for example, community strings). However, if you disable SNMP access, you will be unable to access the switch using SNMP.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables SNMP access on the switch:

```
disable snmp access
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable snmp traps

```
disable snmp traps
```

Description

Prevents SNMP traps from being sent from the switch.

Syntax Description

This command has no parameters or options.

Default

SNMP trap support is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

This command does not clear the SNMP trap receivers that have been configured. The command prevents SNMP traps from being sent from the switch even if trap receivers are configured.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command prevents SNMP traps from being sent from the switch to the trap receivers:

```
disable snmp traps
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable ssh2

```
disable ssh2
```

Description

Disables incoming SSH2 Telnet sessions.

Syntax Description

This command has no parameters or options.

Default

The SSH2 feature is disabled until you obtain a valid security license. If a valid security license is in effect, SSH2 is enabled with no access profile and uses TCP port number 22.

Usage Guidelines

You must have administrator privileges to issue this command.

SSH2 session options (access profile and non-default port setting) are not saved when SSH2 is disabled.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables the SSH2 feature:

```
disable ssh2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable syslog

```
disable syslog
```

Description

Disables logging to a remote logging by way of the UNIX `syslog` host facility.

Syntax Description

This command has no parameters or options.

Default

Remote logging is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example disables logging to a remote syslog host:

```
SummitPx1::12 # disable syslog
* SummitPx1::13 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch. \

disable telnet

```
disable telnet
```

Description

Disables Telnet services on the switch.

Syntax Description

This command has no parameters or options.

Default

Telnet services are enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables Telnet services on the switch:

```
disable telnet
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable vlan

```
disable vlan
```

Description

Disables VLANs on the application switch.

Syntax Description

This command has no parameters or options.

Default

On SummitPx1, VLANs are disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables VLANs on the application switch

```
disable vlan
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

download configuration

```
download configuration
  [<IP address> | <hostname>]
  <filename>
  {primary | secondary}
```

Description

Downloads a previously saved ASCII configuration file from a specific TFTP server host.

Syntax Description

IP address	The IP address of the TFTP server from which the configuration should be obtained.
hostname	The host name of the TFTP server from which the configuration should be obtained.
filename	The path and filename of a saved ASCII configuration.
primary	Specifies that the new configuration should be stored as the primary configuration.
secondary	Specifies that the new configuration should be stored as the secondary configuration.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command does a complete download, resetting the current switch configuration and replacing it with the new downloaded configuration. You will be prompted to reboot the switch after the download is complete.

The switch can store up to two configurations: a primary configuration and a secondary configuration. When you download a new configuration, you can select into which configuration space (primary or secondary) you want the new configuration to be placed. If you do not specify a configuration space, the switch uses the one that was selected with the previous `use configuration` command. To see which configuration is currently selected, use the `show configuration` command.

The new configuration information is stored in switch runtime memory, and is not retained if the switch has a power failure. After the switch has rebooted, you should save the configuration to the primary or secondary configuration area to retain it through a power cycle. You can include a save command at the end of the configuration file to have the save done at the end of the download.

The file on the server is assumed to be located relative to the TFTP server base directory. You can specify a path as part of the filename.

Use of the `hostname` parameter requires that DNS be enabled.

Example

The following command clears the current switch configuration, and downloads a new full configuration from the tftp server `tftphost`. It uses the configuration from the file `stdconfigs.txt` residing in the subdirectory `configs\archive` of the TFTP server base directory on the server:

```
download configuration tftphost configs\archive\stdconfig.txt primary
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

download image

```
download image
  [<IP address> | <hostname>]
  <filename>
  {primary | secondary}
```

Description

Downloads a new version of the ExtremeWarePx software image.

Syntax Description

IP address	The IP address of TFTP server from which the image should be obtained.
hostname	The host name of the TFTP server from which the image should be obtained.
filename	The filename of the new image.
primary	Specifies that the new image should be stored as the primary image.
secondary	Specifies that the new image should be stored as the secondary image.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Prior to downloading an image, you must place the new image in a file on a TFTP server on your network. Unless you include a path with the filename, this command assumes that the file resides in the same directory as the TFTP server itself.

The switch can store up to two images: a primary image and a secondary image. When you download a new image, you can select into which image space (primary or secondary) you want the new image to be placed. If you do not specify an image space, the switch uses the one that was selected with the previous `use image` command.

Use of the `hostname` parameter requires that DNS be enabled.

Example

CAUTION

The following command downloads the switch software image from the TFTP server named `tftphost`, *from the file named* `file.ext`, *to the secondary image store:*

```
download image tftphost ExtremewarePx_ssh_1.2.0b13 primary
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable clipaging

```
enable clipaging
```

Description

Enables the pause mechanism and does not allow the display to print continuously to the screen.

Syntax Description

This command has no parameters or options.

Default

Command-line interface (CLI) paging is enabled by default.

Usage Guidelines

The command-line interface is designed for use in a VT100 environment. Most `show` command output will pause when the display reaches the end of a page.

Even if command-line interface paging is enabled, when you use the `show tech-support` command to diagnose system technical problems, the command-line interface paging feature is disabled during execution of that command.

Example

The following command enables command-line interface paging and does not allow the display to print continuously to the screen:

```
enable clipaging
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable gslb

```
enable gslb
  {port <port number>}
```

Description

Starts the GlobalPx Content Director agent on the Px series application switch.

Syntax Description

port number	The port to be used by the GlobalPx Content Director agent. If no port is specified, the agent listens on the default port, which is 2103.

Default

By default, the GlobalPx Content Director agent does not run.

Usage Guidelines

You must have administrator privileges to issue this command.

Extreme Networks GlobalPx Content Director™ is a DNS-based Internet traffic-management system. This system allows you to take advantage of network and server resources regardless of their location on the Internet or your Intranet. As you add *points of presence* (POPs, clusters of one or more Px-series switches) to a network, GlobalPx Content Director monitors server loads and network response latencies, distributing client requests to the POP that it determines will deliver the best performance. GlobalPx Content Director improves client access performance and reliability by leveraging dispersed network resources. For more information, see the *GlobalPx Content Director Installation and User Guide*.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example starts the GlobalPx Content Director agent, listening on the default port (2103).

```
SummitPx1::12 # enable gslb
* SummitPx1::13 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable log display

```
enable log display
```

Description

Enables display of log message to the console.

Syntax Description

This command has no parameters or options.

Default

Display of log messages is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

By default, warnings and more serious messages are logged. To log messages of a different severity level, use the `configure log display` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables the display of non-fatal and fatal error messages to the console.

```
SummitPx1::12 # enable log display
* SummitPx1::13 # configure log display error
* SummitPx1::14 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable port gigabit

```
enable port gigabit
```

Description

Enables the Gigabit port.

Syntax Description

This command has no parameters or options.

Default

The Gigabit port is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You will be warned if you attempt to issue the `build` command when the Gigabit port is disabled.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables the Gigabit port, commit changes, and save your configuration changes to flash memory, so that they are in effect after the next reboot.

```
SummitPx1:8 # enable port gigabit
SummitPx1:11 # build
SummitPx1:17 # save
Do you want to save to the primary configuration database? (y/n) y

Writing data to Flash...

Saved 16107 bytes to flash.
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable self-audit

```
enable self-audit
```

Description

Enables the internal self-audit.

Syntax Description

This command has no parameters or options.

Default

Internal self-audit is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

Internal self-audit is the internal hardware-check mechanism. To see whether internal self-audit is enabled, use the `show self-audit` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables internal self-audit:

```
enable self-audit
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable snmp access

```
enable snmp access
```

Description

Turns on SNMP support for the switch.

Syntax Description

This command has no parameters or options.

Default

SNMP access is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

To have access to the SNMP agent residing in the switch, at least one VLAN must have an IP address assigned to it.

Any network manager running SNMP can manage the switch, provided the MIB is installed correctly on the management station. Each network manager provides its own user interface to the management facilities.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables SNMP support for the switch:

```
enable snmp access
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable snmp traps

```
enable snmp traps
```

Description

Turns on SNMP trap support.

Syntax Description

This command has no parameters or options.

Default

SNMP trap support is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

An authorized trap receiver can be one or more network management stations on your network. The switch sends SNMP traps to all trap receivers.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables SNMP trap support on the switch:

```
enable snmp trap
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable ssh2

```
enable ssh2
  {port <tcp_port_number>}
```

Description

Enables incoming SSH2 Telnet sessions.

Syntax Description

port	The TCP port number to be used for SSH2 communication. The default is port 22.

Default

The SSH2 feature is disabled until you obtain a valid security license. If a valid security license is in effect, SSH2 is enabled with no access profile and uses TCP port number 22.

Usage Guidelines

You must enable SSH2 on the switch before you can connect to it using an external SSH2 client.

Because SSH2 is currently under U.S. export restrictions, you must first obtain a security-enabled version of the ExtremeWare software from Extreme Networks before you can enable SSH2. The procedure for obtaining a security-enabled version of the ExtremeWare software is described in the *ExtremeWare Software User Guide.*

You must have administrator privileges to issue this command.

NOTE

Using SSH2 requires an authentication key.

Before you issue this command, you should generates an SSH2 authentication key using the `configure ssh2 key` command. If an authentication key has not already been configured, the `enable ssh2` command will automatically start the dialog for generating an authentication key (which can take up to 40 minutes).

Use the `port` option to specify a TCP port number other than the default.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables the SSH2 feature, with access allowed based on the access profile *management*:

```
enable ssh2 management
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable syslog

```
enable syslog
```

Description

Enables logging to a remote logging by way of the UNIX `syslog` host facility.

Syntax Description

This command has no parameters or options.

Default

Remote logging is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

In order to enable remote logging, you must do the following:

- Configure the `syslog` host to accept and log messages.
- Enable remote logging by using the `enable syslog` command.
- Configure remote logging by using the `configure syslog` command.

By default, warnings and more serious messages are logged. To log messages of a different severity level, use the `configure log display` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables logging to a remote syslog host:

```
SummitPx1::12 # enable syslog
* SummitPx1::13 # configure syslog ipaddress 10.1.1.1
* SummitPx1::14 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable telnet

```
enable telnet
```

Description

Enables Telnet access to the switch.

Syntax Description

This command has no parameters or options.

Default

Telnet services are enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables Telnet services on the switch:

```
enable telnet
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable vlan

```
enable vlan
```

Description

Enables VLANs on the application switch.

Syntax Description

This command has no parameters or options.

Default

On SummitPx1, VLANs are disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables VLANs on the application switch then configures the IP address, network mask, and system VLAN.

```
SummitPx1:1 # enable vlan
* SummitPx1:2 # config system-ip 64.1.1.10 / 24 vlan 100
* SummitPx1:3 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

exit

```
exit
```

Description

Logs out of the console.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You can also log out with the `logout` and `quit` commands.

Example

The following command logs out:

```
exit
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

history

```
history
```

Description

Displays a list of the previous 49 commands entered on the switch.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

ExtremeWarePx "remembers" the last 49 commands you entered on the switch. Use the `history` command to display a list of these commands.

Example

The following command displays the previous 49 commands entered on the switch:

```
history
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

load configuration

```
load configuration
  [<IP address> | <hostname>]
  <filename>
```

Description

Loads a previously saved ASCII configuration file from a specific TFTP server host into the switch's runtime memory.

Syntax Description

IP address	The IP address of the TFTP server from which the configuration should be obtained.
hostname	The host name of the TFTP server from which the configuration should be obtained.
filename	The path and filename of a saved ASCII configuration.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command loads the configuration from the specified file, adding to the current configuration.

The file on the server is assumed to be located relative to the TFTP server base directory. You can specify a path as part of the filename.

Use of the `hostname` parameter requires that DNS be enabled.

You must use the `build` command to commit the configuration changes loaded by this command. You must use the `save configuration` command to store the new configuration in permanent memory.

To download a complete new configuration into permanent memory, use the `download configuration` command instead of this command.

Example

The following command loads a configuration file into runtime memory.

```
load configuration tftphost myDir\myConfig.txt
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

logout

```
logout
```

Description

Logs out of the console.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You can also log out with the `exit` and `quit` commands.

Example

The following command logs out:

```
logout
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

nslookup

```
nslookup <hostname>
```

Description

Displays the IP address of the requested host.

Syntax Description

hostname	A host name.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Example

The following command looks up the IP address of a computer with the name of *bigserver.xyz_inc.com*:

```
nslookup bigserver.xyz_inc.com
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

ping

```
ping
  {continuous}
  [<IP address> | <hostname>]
```

Description

Enables you to send Internet Control Message Protocol (ICMP) echo messages or to a remote IP device.

Syntax Description

continuous	Specifies that ICMP echo messages are to be sent continuously. This option can be interrupted by pressing any key.
IP address	The IP address of the host.
hostname	The name of the host.

Default

N/A.

Usage Guidelines

The `ping` command is used to test for connectivity to a specific host; it is available for both the user and administrator privilege level.

If a `ping` request fails, the switch continues to send `ping` messages until interrupted.

You can press any key to interrupt a `ping` request.

Use of the `hostname` parameter requires that DNS be enabled.

Example

This example identifies the remote device by its host name; the `ping` is successful.

```
SummitPx1:13 # ping www.ExtremeNetworks.com
www.ExtremeNetworks.com is alive
```

This example causes continuous ICMP echo messages to be sent to a remote host.

```
SummitPx1:15 # ping continuous www.ExtremeNetworks.com
PING www.ExtremeNetworks.com (10.0.1.236): 56 data bytes
64 bytes from 10.0.1.236: icmp_seq=0. time=0 ms
64 bytes from 10.0.1.236: icmp_seq=1. time=0 ms
64 bytes from 10.0.1.236: icmp_seq=2. time=0 ms
64 bytes from 10.0.1.236: icmp_seq=3. time=0 ms
64 bytes from 10.0.1.236: icmp_seq=4. time=0 ms
64 bytes from 10.0.1.236: icmp_seq=5. time=0 ms
----www.ExtremeNetworks.com PING Statistics----
6 packets transmitted, 6 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 0/0/0
```

This example identifies the remote device by its IP address; the ping fails.

```
SummitPx1:14 # ping 1.1.1.1
no answer from 1.1.1.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

quit

```
quit
```

Description

Logs out of the console.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You can also log out with the `exit` and `logout` commands.

Example

The following command logs out:

```
quit
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

reboot

```
reboot
```

Description

Reboots the switch.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

After downloading a configuration with the `download configuration` command, you need to reboot the switch for the new configuration to take effect.

Example

The following command reboots the switch:

```
reboot
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

save configuration

```
save configuration [primary | secondary]
```

Description

Saves the current configuration from the switch's runtime memory to non-volatile memory.

Syntax Description

primary	Specifies that the configuration should be stored as the primary configuration.
secondary	Specifies that the configuration should be stored as the secondary configuration.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

The saved configuration takes effect on the next reboot.

If you omit the `primary` or `secondary` keyword, the switch uses the one that was selected with the previous `use configuration` command. To see which configuration is currently selected, use the `show configuration` command.

If you have made changes to the configuration which have not yet been committed by the `build` command, you will be asked whether you want to commit those changes (build) before saving the configuration.

Example

This example saves the current configuration to the primary configuration database:

```
SummitPx1:1 # save primary

Writing data to Flash...

Saved 16107 bytes to flash.
```

This example saves the configuration after first committing changes:

```
* Alpha-Px:3 # save primary
Build configuration before saving (y/n)? y

** Configuring proxy-ip

** Configuring server table

** Configuring server-group table

** Configuring service table
```

```
** Updating Health List tables

** Updating self audit parameters.

** Updating Snmp Parameters.

** Gigabit port enabled

** Updating VRRP parameters.

** Updating autosync parameters.

Writing data to Flash...

Saved 16151 bytes to flash.
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

scp2

```
scp2
  {cipher [3des | blowfish]}
  {port <port number>}
  {debug <debug_level>}
  <user>@ [<hostname> | <IP address>] :<remote_file>
  [(configuration {incremental} | image [primary | secondary]]
```

Description

Copies a file from a remote system to the switch using SCP2.

Syntax Description

3des	Specifies that the 3des cipher should be used for encryption. This is the default.
blowfish	Specifies that the blowfish cipher should be used for encryption.
port number	The TCP port number to be used for communicating with the SSH2 client. Default is port 22.
debug_level	A debug level. Default is 0.
user	A login name for the remote host.
hostname	The name of the remote host.
IP address	The IP address of the remote host.
remote file	The name of the remote file to be copied to the switch.
configuration	Specifies that the copied file is a switch configuration file. It the incremental option is not specified, it replaces the current switch configuration.
incremental	Specifies that the copied file should be handled like an incremental configuration download (only the commands in the file are executed).
image	Specifies that the copied file is an software image.
primary	Specifies that the image should be placed in the primary image area.
secondary	Specifies that the image should be placed in the secondary image area.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You must be running a security-enabled version of ExtremeWare 6.2.1 (which is under Export Control) in order to use the scp2 command.

SSH2 does not need to be enabled on the switch in order to use this command. (SSH2 is enabled by default if you are running a security-enabled version of ExtremeWare).

This command logs into the remote host as <user> and accesses the file <remote_file>. You will be prompted for a password from the remote host, if required.

Example

The following command copies a configuration file from the file `configpart1.save` on host `system1` to the switch, replacing the current switch configuration:

```
scp2 admin@system1:configpart1.save configuration
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

ssh2

```
ssh2
  {cipher [3des | blowfish]}
  {port <port number>}
  {compression [on | off]}
  {user <username>}
  {debug <debug_level>}
  {<login_name>@} [<host> | <IP address>]
  {<remote command>}
```

Description

Transmits a command to a remote system using an SSH2 connection.

Syntax Description

3des	Specifies that the 3des cipher should be used for encryption. This is the default.
blowfish	Specifies that the blowfish cipher should be used for encryption.
port number	The TCP port number to be used for communicating with the SSH2 client. Default is port 22.
on	Specifies that data is to be compressed.
off	Specifies that compression is not to be used. This is the default.
username	A login name for the remote host, as an alternate to the user@host parameter.
debug_level	A debug level. Default is 0.
login_name	A login name for the remote host. May be omitted if it is the same as the user name on the switch.
host	The name of the remote host.
IP address	The IP address of the remote host.
remote command	A command to be passed to the remote system for execution. Remote commands are not supported on switches. This option is only valid if the remote system is a system, such as a UNIX workstation, that can accept remote commands.

Default

N/A.

Usage Guidelines

You must be running a security-enabled version of ExtremeWare 6.2.1 (which is under Export Control) in order to use the SSH2 client command.

SSH2 does not need to be enabled on the switch in order to use this command. (SSH2 is enabled by default if you are running a security-enabled version of ExtremeWare).

Typically this command is used to establish a secure session to a remote switch. You will be prompted for your password. Once you have logged in successfully, all ExtremeWare commands you enter will be

executed on the remote switch. When you terminate the remote session, commands will then resume being executed on the original switch.

The remote command option cannot be used with Extreme Networks switches. If you include a remote command, you will receive an error message.

Example

The following command establishes an SSH2 session on switch engineering1:

```
ssh2 admin@engineering1
```

The following command establishes an SSH2 session with the switch summit48i over TCP port 2050 with compression enabled:

```
ssh2 port 2050 compression on admin@summit48i
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

telnet

```
telnet
  [<IP address> | <hostname>]
  {<port number>}
```

Description

Allows you to Telnet from the current command-line interface session to another host.

Syntax Description

IP address	The IP address of the host.
hostname	The name of the host.
port number	A TCP port number. The default port is 23.

Default

N/A.

Usage Guidelines

Only VT100 emulation is supported.

Any workstation with a Telnet facility should be able to communicate with the switch over a TCP/IP network.

You need to configure the switch IP parameters.

You can press the escape character [Ctrl] +] (hexadecimal 0x1d) to get out of the Telnet session.

Up to eight active Telnet sessions can access the switch concurrently. If `idletimeouts` are enabled, the Telnet connection will time out after 20 minutes of inactivity. If a connection to a Telnet session is lost inadvertently, the switch terminates the session within two hours.

Before you can start a Telnet session, you need to configure the switch IP parameters. To open a Telnet connection, you must specify the host IP address or the host name of the device you wish to manage. Check the user manual supplied with the Telnet facility if you are unsure of how to do this.

Use of the `hostname` parameter requires that DNS be enabled.

Example

This example configures Telnet communication with a host at IP address 123.45.67.8:

```
SummitPx1:13 # telnet chein-bsd
Trying 10.0.0.1:23...
Type '^]' to exit.
Connected.

FreeBSD/i386 (chein-bsd.cnd.extremenetworks.c) (ttyq1)

login:
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

traceroute

```
traceroute [<IP address> | <hostname>]
```

Description

Enables you to trace the routed path between the switch and a destination endstation.

Syntax Description

IP address	The IP address of the destination endstation.
hostname	The host name of the destination endstation.

Default

N/A.

Usage Guidelines

To use the `hostname` parameter, you must first configure DNS.

Each router along the path is displayed.

Example

The following command enables the traceroute function to a destination of 123.45.67.8:

```
traceroute 123.45.67.8
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

unconfigure gslb

```
unconfigure gslb ipaddress <IP address> service <string>
```

Description

Removes a virtual service from use by the GlobalPx Content Director scheduler.

Syntax Description

IP address	The VIP of the virtual service to be removed from use by the GlobalPx Content Director scheduler.
string	The virtual host name used for the specified VIP; this virtual host name must also be set the scheduler.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

Extreme Networks GlobalPx Content Director™ is a DNS-based Internet traffic-management system. This system allows you to take advantage of network and server resources regardless of their location on the Internet or your Intranet. As you add *points of presence* (POPs, clusters of one or more Px-series switches) to a network, GlobalPx Content Director monitors server loads and network response latencies, distributing client requests to the POP that it determines will deliver the best performance. GlobalPx Content Director improves client access performance and reliability by leveraging dispersed network resources.

The GlobalPx Content Director transparently directs clients and client DNS servers to the most appropriate POP to satisfy client requests. Typically, the physically closest POP is the one that gives the fastest response. However, this is not always the case. The GlobalPx Content Director *scheduler* routes requests to the optimal POP. The scheduler is a separate program that runs on a Windows or Solaris machine. When the scheduler is in use, virtual services are not automatically used by the scheduler. You must issue the `configure gslb` command for any virtual service that you want to be used by the scheduler. If you later decide to remove a virtual service from the scheduler, you issue this command. For more information, see the *GlobalPx Content Director Installation and User Guide*.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example removes a virtual service from use by the scheduler.

```
SummitPx1::12 # unconfig gslb ip 10.10.45.12 service yosemite.cnd.myhost.com
SummitPx1::13 # build
```

History

This command was available in ExtremeWarePx 1.1.

unconfigure mgmt iproute

```
unconfigure mgmt iproute
  dest-ip <destination IP address>
  gateway <gateway IP address>
```

Description

Removes a route from the routing table for the switch's 10/100BT port.

Syntax Description

destination IP address	The destination IP address.
gateway IP address	The gateway IP address.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

The 10/100BT port has a separate routing table. By default, no routes are installed in the routing table; add routes to the table with the `configure mgmt ipaddress` command.

This command removes the routing-table entry indicating that traffic for `destination IP address` should be directed to `gateway IP address`.

The configuration of management-port information is executed immediately; you do not need to issue the `build` command for this command to take effect.

Example

This example removes a route:

```
station1:4 # unconfig mgmt iproute dest-ip 10.10.10.60 gateway 10.10.10.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

unconfigure switch

```
unconfigure switch {all}
```

Description

Removes the switch configuration, restoring factory defaults.

Syntax Description

all	Specifies that user accounts should be removed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command removes the current configuration and restores the servers, services and system configuration to factory defaults. If you specify the `all` keyword, configuration of user accounts is also removed.

The default configuration takes effect when you reboot the switch.

Example

This example removes the configuration but keeps user accounts.

```
* station2:7 # unconfig switch
Restore factory defaults (except user accounts) and reboot? (yes or no): y
```

This example removes the configuration including user accounts:

```
* station2:6 # unconfig switch all
Restore factory defaults and reboot? (yes or no): y
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

upload configuration

```
upload configuration
  [<IP address> | <hostname>]
  <filename>
  {primary | secondary}
```

Description

Uploads the current configuration to a TFTP server on your network.

Syntax Description

IP address	The IP address of the TFTP server.
hostname	The host name of the TFTP server.
filename	A name for the file where the configuration is to be saved.
	The filename can be up to 255 characters long, and cannot include any spaces, commas, quotation marks, or special characters. Unless you include a path with the filename, this command places the file in the same directory as the TFTP server itself.
primary	Specifies that the primary configuration should be uploaded.
secondary	Specifies that the secondary configuration should be uploaded.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

The uploaded ASCII file retains the command-line interface (CLI) format. This allows you to do the following:

- Modify the configuration using a text editor, and later download a copy of the file (using the `download configuration` command) to the same switch, or to one or more different switches.
- Send a copy of the configuration file to Extreme Networks Technical Support for problem-solving purposes.

Use of the `hostname` parameter requires that DNS be enabled.

Example

The following command uploads the current primary configuration to the file `configbackup.txt` on the TFTP server named `tftphost`:

```
upload configuration tftphost configbackup.txt primary
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

use configuration

```
use configuration [primary | secondary]
```

Description

Configures the switch to use a previously saved configuration on the next reboot.

Syntax Description

primary	Specifies the primary saved configuration.
secondary	Specifies the secondary saved configuration.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can issue the `show switch` command to see which configuration is currently being used.

Example

The following command specifies that the next reboot should use the primary saved configuration:

```
use configuration primary
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

use image

```
use image [primary | secondary]
```

Description

Configures the switch to use a saved image on the next reboot.

Syntax Description

primary	Specifies the primary saved software image.
secondary	Specifies the secondary saved software image.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can issue the `show switch` command to see which image is currently being used.

Example

The following command configures the switch to use the primary image on the next reboot:

```
use image primary
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

3 Commands for Configuring Servers and Services

This chapter describes the following commands:

- Commands for configuring servers
- Commands for creating and configuring server groups
- Commands for creating and configuring virtual services

Servers

The *real servers* are the actual web or application servers that fulfill the client requests. Typically, one or more identical real servers run the same application and contain the exact same content. *Configuring a server* makes a real server available to the switch, assigns the server a unique index, and sets properties of the server. The switch identifies servers by index. For each server index, the switch keeps track of the IP address and port number of the corresponding real server. Once a server has been configured, it can be identified in commands either by its index number or by the combination of its IP address and port number.

The following commands configure servers.

`configure server`	Configures one or more servers, establishing a correspondence between each server's index and the IP address and port number of the corresponding real server.
`configure server default`	Configures the global default values for server properties.
`unconfigure server`	Removes one or more servers from the system.

Server Groups

After servers are configured, they must be organized into *server groups*. The ExtremeWarePx software selects a server to handle each connection to a particular server group.

The following commands create and configure server groups.

`configure server-group`	Creates a server group with the specified name and scheduling policy.
`configure server-group add-server`	Adds one or more servers to a server group.
`configure server-group delete-server`	Deletes one or more servers from a server group.
`unconfigure server-group`	Removes a server group from the system.

Virtual Services

A *virtual service* is the IP address and port to which clients on the Internet actually connect. The Px-series application switch supports layer 4 and layer 7 virtual services:

- A layer 4 virtual service used one particular server group. Any connection to the service is directed to one of the servers in that group, based on the scheduling policy of the server group. The traffic is not examined.
- A layer 7 virtual service can use a number of different server groups. The switch examines a client request and applies pattern rules for the service to select a server group based on the domain, URL, or cookie in the request.

The following commands create and remove virtual services.

`configure service L4`	Creates a layer 4 virtual service.
`configure service L7`	Creates a layer 7 virtual service.
`unconfigure service`	Removes a service from the system.

The following commands configure a layer 7 virtual service.

`configure domain`	Creates a domain for the current layer 7 service.
`configure domain default`	Configures the default domain for the current layer 7 service.
`configure pattern-rule`	Creates a pattern rule for the current domain of the current layer 7 service.
`configure pattern-rule default`	Configures the default pattern rule for the current domain of a current layer 7 service.
`configure pattern-rule default cookie-name`	Configures the cookie persistence mode for the current layer 7 service.
`unconfigure domain`	Removes a domain from the current layer 7 service.
`unconfigure pattern-rule`	Removes a pattern rule from the current domain of the current layer 7 service.

configure domain

```
configure domain name <name string>
```

Description

Creates a domain for the current layer 7 service.

Syntax Description

name string	The domain name as specified in a client request, or the special domain name "*" if the server uses only the URL (and not the domain name) to select a server group. The name string "*" matches any request with an unspecified domain name, that is, any request in which the domain name is not present in the HTTP header.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command applies to the service that was specified in the most recently issued `configure service L7` command. That service is called the *current service*.

This command establishes the context for subsequent commands that configure pattern rules for the domain. It is relevant only for a layer 7 service that uses HTTP.

You use this command as follows:

- If the current service uses the domain specified in the client request to select a server group, you must:
  - **a** Issue the `configure domain` command to configure a recognized domain name for the current service; the domain specified in this command is called the *current domain*.
  - **b** Issue the appropriate commands to configure pattern rules for the current domain.
  - **c** If more than one domain name is recognized for the current service, repeat steps a and b for each additional recognized domain name.
  - **d** Issue the `configure domain default` command to configure a default domain for the current service.
  - **e** Issue the appropriate commands to configure pattern rules for the default domain.
- If the current service uses only the URL (and not the domain) to select a server group, you must:
  - **a** Issue the `configure domain` command, specifying the special domain name "*".
  - **b** Issue the appropriate commands to configure pattern rules for the current service.

For each configured domain name, including the special domain name "*", you must configure zero or more non-default pattern rules (with the `configure pattern-rule` command) and one default pattern rule (with the `configure pattern-rule` command).

If a layer 7 service was configured with its `class` parameter set to `https`, you use the `configure domain default` command instead of this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example configures domains for a service. Note that the service is configured to recognizes domain names that begin with or omit the initial "`www.`" (for example, `www.buystuff.com` and `buystuff.com`).

```
SummitPx1::12 # config service vip 10.10.31.2 port 8080 proto tcp l7 class http
* SummitPx1::13 # config domain name buystuff.com
* SummitPx1::14 # config pattern-rule default server-group-name buystuff
* SummitPx1::15 # config domain name www.buystuff.com
* SummitPx1::16 # config pattern-rule default server-group-name buystuff
* SummitPx1::17 # config domain name buythisnow.com
* SummitPx1::18 # config pattern-rule default server-group-name buythisnow
* SummitPx1::19 # config domain name www.buythisnow.com
* SummitPx1::20 # config pattern-rule default server-group-name buythisnow
* SummitPx1::21 # config domain default
* SummitPx1::22 # config pattern-rule default server-group-name mainpage
* SummitPx1::23 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure domain default

```
configure domain default
```

Description

Configures the default domain for the current layer 7 service.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command applies to the service that was specified in the most recently issued `configure service L7` command. That service is called the *current service*.

You must configure a default domain for every layer 7 service that does not configure the single special domain name `"*"`.

This command establishes the context for the subsequent commands that configure pattern rules for the default domain.

You must configure pattern rules for the default domain:

- For a service whose `class` is `https`, the default domain must contain only the default pattern rule (created with the `configure pattern-rule default` command).
- The default domain of other services may contain zero or more non-default pattern rules (created with the `configure pattern-rule` command) and must contain one default pattern rule. If the service uses cookies, you use the `configure pattern-rule default cookie-name` command to configure the default pattern rule; otherwise, you use the `configure pattern-rule default` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example configures two named domains and a default domain for a service. All domains for this service contain a default pattern rule only.

```
SummitPx1::12 # config service vip 10.10.31.1 port 8080 proto tcp l7 class http
* SummitPx1::13 # config domain name mydomain.com
* SummitPx1::14 # config pattern-rule default server-group-name group1
* SummitPx1::15 # config domain name www.mydomain.com
* SummitPx1::16 # config pattern-rule default server-group-name group1
* SummitPx1::17 # config domain default
* SummitPx1::18 # config pattern-rule default server-group-name mainpage
* SummitPx1::19 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure pattern-rule

```
configure pattern-rule <pattern string>
  server-group-name <group name>
  [noqos |
   (dot1p-to-svr <dot1p-to-svr tag>
    dot1p-to-net <dot1p-to-net tag>
    diffserv-to-svr <diffserv-to-svr tag>
    diffserv-to-net <diffserv-to-net tag>)]
```

Description

Creates a pattern rule for the current domain of the current layer 7 service.

Syntax Description

pattern string	The pattern to be matched against the URL in the client request. The pattern string can include a single wildcard character (*), which may be placed before or after any of the following delimiters: / . ? & # The wildcard matches any string from zero to 32 characters long.
group name	The name of the server group to select if the pattern is matched.
noqos	Indicates that the service does not tag traffic based on the application or transaction type
dot1p-to-svr tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
dot1p-to-net tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
diffserv-to-svr tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.
diffserv-to-net tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command applies to the current domain of the current service. The *current service* is the service that was specified in the most recently issued `configure service L7` command. The *current domain* is the domain that was specified in the most recently issued `configure domain` or `configure domain default` command.

The configured pattern rule specifies the server group that the current service should use when a client request includes the current domain and a URL that matches the specified pattern string.

If you end the command with the `noqos` keyword, the headers are left unchanged in the incoming traffic that matches the configured pattern rule. If you do not specify this keyword, you can specify tags for incoming traffic. You can specify different tags for two fields: the 802.1p header and the DiffServ code point (DSCP) in the TCP header. For either field, you can specify different tags for traffic towards the server and traffic towards the network. You must specify values for all four parameters `dot1p-to-svr`, `dot1p-to-net`, `diffserv-to-svr`, and `diffserv-to-net`. If the value of one of these parameters is a hexadecimal number, that number is used as a tag, overwriting any tag that is used on the traffic; if the value is the keyword `preserve`, any existing tag in the incoming traffic is left unchanged.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example configures a service to use the `images` server group for files with the extensions `gif` or `jpg`, the `media` server group for files with the extensions `mov` or `mp3`, and the `mydomain` server group for all other files.

```
SummitPx1::14 # config service vip 64.1.2.10 port 80 protocol tcp L7 class http
* SummitPx1::15 # config domain name *
* SummitPx1::16 # config pattern-rule "*.gif" server-group-name images noqos
* SummitPx1::17 # config pattern-rule "*.jpg" server-group-name images noqos
* SummitPx1::18 # config pattern-rule "*.mov" server-group-name media noqos
* SummitPx1::19 # config pattern-rule "*.mp3" server-group-name media noqos
* SummitPx1::20 # config pattern-rule default server-group-name mydomain noqos
* SummitPx1::21 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure pattern-rule default

```
configure pattern-rule default
   server-group-name <group name>
   [noqos |
    (dot1p-to-svr <dot1p-to-svr tag>
     dot1p-to-net <dot1p-to-net tag>
     diffserv-to-svr <diffserv-to-svr tag>
     diffserv-to-net <diffserv-to-net tag>)]
```

Description

Configures the default pattern rule for the current domain of a current layer 7 service.

Syntax Description

group name	The name of the server group to select if the URL in the client request does not match any pattern rule of the current domain of the current service.
noqos	Indicates that the service does not tag traffic based on the application or transaction type
dot1p-to-svr tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
dot1p-to-net tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
diffserv-to-svr tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.
diffserv-to-net tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command applies to the current domain of the current service. The *current service* is the service that was specified in the most recently issued `configure service L7` command. The *current domain* is the

domain that was specified in the most recently issued `configure domain` or `configure domain default` command.

The configured pattern rule specifies the server group to be used when no other pattern rule in the current domain is applicable.

If you end the command with the `noqos` keyword, the headers are left unchanged in the incoming traffic that matches the configured pattern rule. If you do not specify this keyword, you can specify tags for incoming traffic. You can specify different tags for two fields: the 802.1p header and the DiffServ code point (DSCP) in the TCP header. For either field, you can specify different tags for traffic towards the server and traffic towards the network. You must specify values for all four parameters `dot1p-to-svr`, `dot1p-to-net`, `diffserv-to-svr`, and `diffserv-to-net`. If the value of one of these parameters is a hexadecimal number, that number is used as a tag, overwriting any tag that is used on the traffic; if the value is the keyword `preserve`, any existing tag in the incoming traffic is left unchanged.

For the default domain of a service that uses cookies, you create the default pattern rule with the `configure pattern-rule default cookie-name` command instead of this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example configures a default pattern rule for files with the `gif` extension and a default rule.

```
SummitPx1::12 # config service vip 10.10.31.1 port 8080 proto tcp l7 class http
* SummitPx1::13 # config domain name mydomain.com
* SummitPx1::14 # config pattern-rule "*.gif" server-group-name group2
   dot1p-to-svr 0x07 dot1p-to-net 0x07 diffserv-to-srv 0x3f diffserv-to-net 0x3f
* SummitPx1::15 # config pattern-rule default server-group-name group1 noqos
* SummitPx1::16 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure pattern-rule default cookie-name

```
configure pattern-rule default
  server-group-name <group name>
  cookie-name <cookie string> cookie-type [self | hash | learning]}
  [noqos |
   (dot1p-to-svr <dot1p-to-svr tag>
    dot1p-to-net <dot1p-to-net tag>
    diffserv-to-svr <diffserv-to-svr tag>
    diffserv-to-net <diffserv-to-net tag>)]
```

Description

Configures the cookie persistence mode for the current layer 7 service.

Syntax Description

group name	The name of the server group to select whenever a client request for the current service includes a cookie.
cookie string	The ASCII name of the cookie. The current service responds only to cookies with this name.
self	Specifies that the current service uses self-identifying cookie persistence mode. In this mode, the server cookie should contain a unique string of 7 to 15 characters to identify the real IP web server of the specified server group.
hash	Specifies that the current service uses hashed cookie persistence mode. In this mode, the cookie contains unique information about the client. The switch computes a hash value from this information and uses the hash value to select the appropriate server from the specified server group.
learning	Specifies that the current service uses learned cookie persistence mode. In this mode, the switch creates a database that stores historical information about each session and uses the stored information to match the incoming cookie with the previous connection made by the same client and value to select the appropriate server from the specified server group.
noqos	Indicates that the service does not tag traffic based on the application or transaction type
dot1p-to-svr tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
dot1p-to-net tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
diffserv-to-svr tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.

diffserv-to-net tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command applies to the default domain of the current service. The current service is the service that was specified in the most recently issued `configure service L7` command. The `class` of the current service must be `http`.

The current domain must be the default domain. That is, the `configure domain default` command must have been issues after any `configure domain` command for the current service.

The configured pattern rule specifies the server group to be used *whenever* the service gets a client request that includes a cookie with the specified name—regardless of the domain name or URL specified in the request. The contents of the cookie is used to select the specific server within the server group, according to the cookie persistence mode specified by the `cookie-type` parameter.

If you end the command with the `noqos` keyword, the headers are left unchanged in the incoming traffic that include cookies. If you do not specify this keyword, you can specify tags for incoming traffic. You can specify different tags for two fields: the 802.1p header and the DiffServ code point (DSCP) in the TCP header. For either field, you can specify different tags for traffic towards the server and traffic towards the network. You must specify values for all four parameters `dot1p-to-svr`, `dot1p-to-net`, `diffserv-to-svr`, and `diffserv-to-net`. If the value of one of these parameters is a hexadecimal number, that number is used as a tag, overwriting any tag that is used on the traffic; if the value is the keyword `preserve`, any existing tag in the incoming traffic is left unchanged.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example configures a service to use learned cookie persistence.

```
SummitPx1::12 # config service vip 10.10.31.1 port 8080 proto tcp l7 class http
* SummitPx1::13 # config domain name mydomain.com
* SummitPx1::14 # config pattern-rule default server-group-name group1
* SummitPx1::15 # config domain name default
* SummitPx1::16 # config pattern-rule default server-group-name group1 cookie-name
   "session-id" cookie-type self
* SummitPx1::17 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server

```
configure server index <index number>
  ipaddress <IP address>
  port <port number>
  {max-connections <max number>}
  {weight <weight number>}
  {cookie <cookie string>}
configure server index <index number>
  ipaddress <IP address> - <IP address>
  port <port number>
  {max-connections <max number>}
  {weight <weight number>}
```

Description

Configures one or more servers, establishing a correspondence between each server's index and the IP address and port number of the corresponding real server.

Syntax Description

index number	A unique index number that identifies the server to the switch.
IP address	An actual IP address of a real server. Two IP addresses separated by a hyphen indicate a range of addresses; the command configures all servers with addresses in the specified range.
port number	The port the real server uses to answer requests. Real servers can share an IP address, but the port must be unique for each server.
max number	The maximum number of concurrent connections that the server can handle. After that number is reached, no more connections are sent to that particular server until some of the open connections have been close. If this parameter is not specified, the global default maximum number of connections is used.
weight number	The weight factor to be used for weighted load-balancing algorithms. If this parameter is not specified, the global default weight is used.
cookie string	An ASCII string between 7 and 15 characters long that uniquely identifies the server. This string will be used by service pattern rules of cookie-type `self`.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

To configure a server, you must specify:

- The index that identifies the server to the switch
- A unique combination of IP address and port number that identifies the real server

You can configure a number of servers at contiguous IP addresses, all of which use the same port. When you specify a range of IP addresses, the specified index is used for the first server and incremented for each configured server.

You must use the `build` command to commit the configuration changes made by this command.

Adding a Server. The first time you configure a particular combination of index, IP address, and port number, you add the specified server to the system. The switch associates the server index with the real server that has the indicated IP address and port number.

If a given real server has already been added to the system, you may not assign that same server to a different index. An error will be reported if you attempt to do so. For examples:

```
SummitPx1::2 # config server index 100 ipaddress 10.1.1.1 port 80
* SummitPx1::3 # config server index 102 ipaddress 10.1.1.1 port 80
ERROR: server ip and port have already been configured in server index 100
Command Failed
```

Setting Server Properties. Adding a server to the system initializes the server's properties:

- The maximum number of connections for the server
- The server's weight for use by weighted load-balancing algorithms
- A cookie string that uniquely identifies the server (relevant only for servers that will be used in a layer 7 virtual service that uses the self-identifying cookie persistence mode)

When you configure a single server, you can specify values for any of these properties. When you configure a number of servers in a single command, you can specify values for the first two properties, but not the cookie string.

When the number of connections to a particular server equals its maximum number of connections, no more connections are sent to that server until some of its open connections have been closed. If the `configure server` command does not specify the value for a server's maximum number of connections or weight, the global default value is used. The global default value for the maximum number of connections is initially 10,000; the global default for weight is initially 1. You can change the global default values with the `configure server default` command.

If the `configure server` command does not specify the value for a server's cookie string, and that server is used in a layer 7 virtual service that uses the self-identifying cookie persistence mode, a default cookie string is constructed. A server's default cookie string is a 7-character ASCII string containing the server's index with leading zeros. For example, a server with index 25 has the default cookie string of "0000025".

Changing the Real Server at an Index. Once you have added a server to the system, if you later issue the `configure server` command, specifying the server's index number but a different IP address and port number, you replace the real server associated with that server index. The real server previously associated with the specified index is removed from the system (because it no longer has an associated index number).

Changing Server Properties. You can change the properties of an existing server by issuing the `configure server` command, specifying the index number, IP address, and port number of the server, and a new value for the any of the server's properties.

Example

This example creates servers with indexes 3 through 10, all using port 80, with a maximum of 4000 connections, and all with equal weight:

```
SummitPx1:11 # configure server index 3 ipaddress 10.2.2.2 - 10.2.2.9 port 80
     max-connections 4000 weight 1
* SummitPx1:12 # build
```

History

This form of this command was available in ExtremeWarePx 1.2. A form of the command without the `cookie` parameter was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server default

```
configure server default
     [(max-connections <max number>) |
      (weight <weight number>)]
```

Description

Configures the global default values for server properties.

Syntax Description

max number	The global default value for the maximum number of concurrent connections a server can handle. When a server has its maximum number of connections, no more connections are sent to that particular server until some of its open connections have been closed.
weight number	The global default value for the weight factor for servers. Weight factors are used by weighted load-balancing algorithms.

Default

If this command is never used, the global default value for maximum number of connections is 10,000 and the global default value for weight is 1.

Usage Guidelines

You must have administrator privileges to issue this command.

You can use this command to change the global default values for server properties. When you configure servers without specifying the maximum number of connections, the global default for that property is used. When you configure servers without specifying the weight, the global default for that property is used.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example sets the global default maximum number of connections to 6,000 (command 8), then configures 3 servers using this default (command 9), and configures a fourth server with a maximum of 4,000 connections (command 10). These changes do not take effect until the `build` command (number 11) commits them.

```
SummitPx1:8 # configure server default max-connections 6000
* SummitPx1:9 # configure server index 3 ipaddress 10.2.2.2 - 10.2.2.4 port 80
* SummitPx1:10 # configure server index 6 ipaddress 10.2.2.5 port 80
      max-connections 4000
* SummitPx1:11 # configure server index 7ipaddress 10.2.2.6 port 80
      cookie "myserver1"
* SummitPx1:12 # build
```

History

This form command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group

```
configure server-group name <name string>
     policy [rr | round-robin |wrr | weighted-round-robin |
             lc | least-connections | wlc | weighted-least-connections |
             hash]
     {server-last-resort index <index>}
```

Description

Creates a server group with the specified name and scheduling policy.

Syntax Description

name string	A unique name for the new server group.
rr round-robin	Specifies the round-robin scheduling policy. (`rr` is an abbreviation for `round-robin`; either the abbreviation or the full policy name may be used in this command.)
wrr weighted-round-robin	Specifies the weighted round-robin scheduling policy. (`wrr` is an abbreviation for `weighted-round-robin`; either the abbreviation or the full policy name may be used in this command
lc least-connections	Specifies the least-connections scheduling policy. (`lc` is an abbreviation for `least-connections`; either the abbreviation or the full policy name may be used in this command.)
wlc weighted-least-connections	Specifies the weighted least-connections scheduling policy. (`wlc` is an abbreviation for `weighted-least-connections`; either the abbreviation or the full policy name may be used in this command.)
hash	Specifies the hash scheduling policy.
index	The index for the server of last resort.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

When you create a server group, you must specify a unique name and a scheduling policy

A server's scheduling policy, also called its load-balancing policy, is the method by which a server is selected from the server group for a particular connection. Any service that uses a specific server group uses the policy defined for that group.

The Px-series application switch supports the following scheduling policies:

Policy	Description
round robin	Distributes clients evenly across the web server group by passing each new connection request to the next server in line. The first client connection is sent to the first server, the second to the second server, and so on, until each server has a connection. When each server has its first connection, the next client connection is sent to the first server, the next to the second, and so on. Round robin is the simplest way of balancing web traffic, and is best suited for environments in which the performance level of all servers is about equal, and all servers provide the same content.
weighted round robin	Similar to round robin, except that you can apply a weight to each server. For example, if server A has a weight of two, and server B has a weight of one, server A receives two connections for each connection given to server B. Weighted round robin is useful if all servers provide the same content, but some are faster than others.
least connections	Passes a new connection to the server having the fewest active sessions. It distributes clients based on the server with fewest connections currently open. The least connections policy provides the best performance under most conditions.
weighted least connections	As in weighted round robin, assigns a weight to each server. The weight can be based on a number of things, including: • Processor speed • Network connection speed Connections are distributed using the server with the fewest connections by weight. As in weighted round robin, weighted least connections can be used if servers have very different connection-handling capacities. Weighted least connections has the advantage of not overloading older, slower servers with too many connections.
hash	Selects a server from the group based on a hash value computed from the client IP address and the service IP address (VIP).

You may optionally specify a *server of last resort* for the group. This is a server to which traffic is sent if all the servers in a server-group are down. It could be a server that simply replies to the client with a "SYSTEM DOWN" message, or a server that can service the request under emergency circumstances (perhaps a development machine or a system in another geographical location). To specify the server of last resort, use the optional `server-last-resort` parameter.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example creates a server group named `group1`, giving it the weighted least-connections scheduling policy:

```
SummitPx1:25 # configure server-group name group1 policy wlc
* SummitPx1:26 # build
```

This example creates a server group named `group2` with round-robin scheduling policy that uses server with index 9 as its server of last resort:

```
SummitPx1:27 # configure server-group name group2 policy rr server-last-resort index 9
* SummitPx1:28 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group add-server

```
configure server-group name <name string> add-server
  [(index <index number> {- <index number>}) |
   (ipaddress <IP address> {- <IP address>} port <port number>)]
```

Description

Adds one or more servers to a server group.

Syntax Description

name string	The name of the server group to which the servers should be added.
index number	The unique index number of a server to be added.
IP address	The IP address of a server to be added. The IP address plus the port number uniquely identify a server.
port number	The port number of the servers to be added. The port number plus the IP address uniquely identify a server.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

After you have created a server group with the `configure server-group` command and added servers to the system with the `configure server` command, you can add the servers to the server group.

You can identify a server to be added either by its index number or by its IP address and port number. This command allows you to add a number of servers with consecutive index numbers or a number of servers with consecutive IP addresses, all of which use the same port.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example adds three servers to the system, creates a server group, and adds the three servers to the server group:

```
SummitPx1:5 # configure server index 1 ip 64.1.1.50 - 64.1.1.52 port 80
* SummitPx1:6 # configure server-group name group1 policy rr
* SummitPx1:7 # configure server-group name group1 add-server index 1 - 3
* SummitPx1:8 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group delete-server

```
configure server-group name <name string> delete-server
  [(index <index number> {- <index number>}) |
   (ipaddress <IP address> {- <IP address>} port <port number>)]
```

Description

Deletes one or more servers from a server group.

Syntax Description

name string	The name of the server group from which the servers should be deleted.
index number	The unique index number of a server to be deleted.
IP address	The IP address of a server to be deleted. The IP address plus the port number uniquely identify a server.
port number	The port number of the servers to be deleted. The port number plus the IP address uniquely identify a server.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

After you have created a server group with the `configure server-group` command, and added servers to the group with the `configure server-group add-server` command, you can delete selected servers from the server group.

You can identify a server to be deleted either by its index number or by its IP address and port number. This command allows you to delete a number of servers with consecutive index numbers or a number of servers with consecutive IP addresses, all of which use the same port.

This command removes each specified server from the named server group, but leaves the server configured in the system, so that it can be added to a different group. To remove a server from the system altogether, use the `unconfigure server` command instead of this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example delete the server with index number 2 from the server group named `group1`.

```
SummitPx1:7 # configure server-group name group1 delete-server index 2
* SummitPx1:8 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure service L4

```
configure service vip <IP address>
   {vrid <VRID number>}
   {vlan <vlan tag number>}
   port <port number>
   protocol [tcp | udp]
   L4 server-group-name <group name>
   [noqos |
    (dot1p-to-svr <dot1p-to-svr tag>
     dot1p-to-net <dot1p-to-net tag>
     diffserv-to-svr <diffserv-to-svr tag>
     diffserv-to-net <diffserv-to-net tag>)]
```

Description

Creates a layer 4 virtual service.

Syntax Description

IP address	The virtual IP address of the service.
VRID number	The VRID of the VRRP class for the service; a number between 1 and 255.
vlan tag number	The VLAN tag for the service.
port number	The port the service uses to answer requests.
tcp	Specifies the TCP protocol.
udp	Specifies the UDP protocol.
group name	The name of the server group for this service.
noqos	Indicates that the service does not tag traffic based on the application or transaction type
dot1p-to-svr tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
dot1p-to-net tag	Specifies whether to apply a tag to the 802.1p header for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x07, inclusive, is the tag to be applied to this type of traffic.
diffserv-to-svr tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the server; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.
diffserv-to-net tag	Specifies whether to apply a tag to the DiffServ code point for packets directed to the network; one of the following values: • The keyword `preserve` indicates that no tag is applied to this type of traffic. • A hexadecimal number from 0x00 to 0x3F, inclusive, is the tag to be applied to this type of traffic.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

To create any virtual service, you must specify the IP address and port to which Internet clients connect and the protocol (TCP or UDP) to be used. For a layer 4 service, you also specify the server group to be used for this service. You may optionally specify any of the following:

- A virtual router ID (VRID) for the VRRP class for this service
- A VLAN for this service
- Tags to be applied to packets

If you enable VRRP (with the `enable vrrp` command):

- You must assign every virtual service to a VRRP class. You specify the class for a service with the `vrid` parameter.
- Every unique VIP must belong to a single VRRP class. Thus, if you use the same VIP for different services (each with a different combination of port and protocol), all those services must be assigned the same VRID.
- If gateway mode is also enabled, you must ensure sure every server responds to VIPs in a single VRRP class. That is, all services that use a particular server must be in the same VRRP class.

For more information about VRRP, see Chapter 5; for a description of the commands to gateway mode, see Chapter 4.

If you end the `configure service` command with the `noqos` keyword, the headers in the incoming traffic to this service are left unchanged. If you do not specify this keyword, you can specify tags for incoming traffic. You can specify different tags for two fields: the 802.1p header and the DiffServ code point (DSCP) in the TCP header. For either field, you can specify different tags for traffic towards the server and traffic towards the network. You must specify values for all four parameters `dot1p-to-svr`, `dot1p-to-net`, `diffserv-to-svr`, and `diffserv-to-net`. If the value of one of these parameters is a hexadecimal number, that number is used as a tag, overwriting any tag that is used on the traffic; if the value is the keyword `preserve`, any existing tag in the incoming traffic is left unchanged.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example creates a layer 4 service. Clients connect to this service using IP address 64.1.2.10, port 80, and TCP protocol. The switch directs the connection to one of the servers in the server group named `group1`:

```
SummitPx1:5 # configure server index 1 ip 64.1.1.50 - 64.1.1.52 port 80
* SummitPx1:6 # configure server-group name group1 policy rr
* SummitPx1:7 # configure server-group name group1 add-server index 1 - 3
* SummitPx1:8 # configure service vip 64.1.2.10 port 80 protocol tcp
   L4 server-group-name group1 noqos
* SummitPx1:9 # build
```

History

This form of this command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure service L7

```
configure service vip <IP address>
  {vrid <VRID number>}
  {vlan <vlan tag number>}
  port <port number>
  protocol [tcp | udp]
  L7 class [http | https]
```

Description

Creates a layer 7 virtual service.

Syntax Description

IP address	The virtual IP address of the service.
VRID number	The VRID of the VRRP class for the service; a number between 1 and 255.
vlan tag number	The VLAN tag for the service.
port number	The port the service uses to answer requests.
tcp	Specifies the TCP protocol.
udp	Specifies the UDP protocol.
http	Specifies that the service supports regular web traffic.
https	Specifies that the service supports SSL session persistence.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

To create any virtual service, you must specify the IP address and port to which Internet clients connect and the protocol (TCP or UDP) to be used. For a layer 7 service, you also specify the *class* of application that the VIP supports, either `http` for regular web traffic, or `https` for SSL session persistence.

You may optionally specify either of the following:

- A virtual router ID (VRID) for the VRRP class for this service
- A VLAN for this service

If you enable VRRP (with the `enable vrrp` command):

- You must assign every virtual service to a VRRP class. You specify the class for a service with the `vrid` parameter.
- Every unique VIP must belong to a single VRRP class. Thus, if you use the same VIP for different services (each with a different combination of port and protocol), all those services must be assigned the same VRID.
- If gateway mode is also enabled, you must ensure sure every server responds to VIPs in a single VRRP class. That is, all services that use a particular server must be in the same VRRP class.

For more information about VRRP, see Chapter 5; for a description of the commands to gateway mode, see Chapter 4.

You must use the `build` command to commit the configuration changes made by this command.

After you create a layer 7 virtual service, you must configure domains for the service.

Configuring an HTTP Service. If the `class` of a service is `http`, the switch can examine the HTTP header in a client request and select a server group based on the domain name, URL, or both. In addition, it can examine any cookie with the client request to identify the server to be used.

You can configure domains for an HTTP service. Each domain is a DNS domain that is used at the service. If the service uses the domain specified in the client request to select a server group, you must use the `configure domain` command to configure each recognized domain name. In addition, you must use the `configure domain default` command to configure a default domain.

If the service uses only the URL (and not the domain) to select a server group, you use the `configure domain` command to configure a single domain with the special domain name `"*"`.

For each configured domain (including the default), you must configure pattern rules that select a sever group based on the URL in the client request.

If the service uses cookies to maintain a session between a client and a particular web server, the service must include a default domain whose default pattern rule is created by `configure pattern-rule default cookie-name` command. This default patter rule identifies the cookie name to be matched, the cookie persistence mode used by the service, and the server group to be used for client requests that include cookies.

Configuring an HTTPS Service. If the `class` of a service is `https`, the header is encrypted, so the switch cannot identify the domain name or URL. To configure an HTTPS service, you must use the `configure domain default` command to configure a default domain and the `configure pattern-rule default` command to configure a default pattern rule. This pattern rule specifies the server group to be used by the service. SSL session identifier persistence is used to maintain a session between a client and a particular web server.

Example

This example creates an HTTP service that uses only the URL in a client request to select a server group.

```
SummitPx1:5 # config service vip 64.1.2.12 port 80 protocol tcp L7 class http
* SummitPx1:6 # configure domain name *
...
* SummitPx1:10 # build
```

This example creates an HTTPS service.

```
SummitPx1:18 # config service vip 64.1.2.14 port 80 protocol tcp L7 class https
* SummitPx1:19 # config domain default
* SummitPx1:20 # config pattern-rule default server-group-name group1
* SummitPx1:21 # build
```

History

This form of this command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

unconfigure domain

```
unconfigure domain name <name string>
```

Description

Removes a domain from the current layer 7 service.

Syntax Description

name string	The domain name to be removed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command applies to the service that was specified in the most recently issued `configure service L7` command. That service is called the *current service*. The specified domain name must be one that was added to the current service with the `configure domain` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example removes a domains from a service. It first sets the context to the correct service, then unconfigures the domain.

```
SummitPx1::47 # config service vip 10.10.31.2 port 8080 proto tcp l7 class http
* SummitPx1::48 # unconfig domain name buythisnow.com
* SummitPx1::49 # unconfig domain name www.buythisnow.com
* SummitPx1::50 # build
```

History

This form of the command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

unconfigure pattern-rule

```
unconfigure pattern-rule <pattern string>
```

Description

Removes a pattern rule from the current domain of the current layer 7 service.

Syntax Description

pattern string	The pattern string of the patter rule to be removed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command applies to the current domain of the current service. The *current service* is the service that was specified in the most recently issued `configure service L7` command. The *current domain* is the domain that was specified in the most recently issued `configure domain` or `configure domain default` command. The specified pattern string must be the pattern string of a pattern rule that was added to the current domain of the current service with the `configure pattern-rule` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example removes a pattern rule. It first sets the context to the correct service and domain, then unconfigures the rule.

```
SummitPx1::34 # config service vip 64.1.2.10 port 80 protocol tcp L7 class http
* SummitPx1::35 # config domain name *
* SummitPx1::36 # unconfig pattern-rule "*.mp3"
* SummitPx1::37 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

unconfigure server

```
unconfigure server
  [(index <index number> {- <index number>}) |
   (ipaddress <IP address> {- <IP address>} port <port number>)]
```

Description

Removes one or more servers from the system.

Syntax Description

index number	The unique index number of a server to be removed.
IP address	The IP address of a server to be removed. The IP address plus the port number uniquely identify a server.
port number	The port number of the servers to be removed. The port number plus the IP address uniquely identify a server.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can identify a server to be removed either by its index number or by its IP address and port number. This command allows you to remove a number of servers with consecutive index numbers or a number of servers with consecutive IP addresses, all of which use the same port.

To remove a server from a server group but leave it configured in the system so that it can be added to a different group, use the `configure server-group delete-server` command instead of this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example removes servers with indexes 3 through 5:

```
SummitPx1:21 # unconfigure server index 3 - 5
* SummitPx1:22 # build
```

History

This form of the command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

unconfigure server-group

```
unconfigure server-group name <name string>
```

Description

Removes a server group from the system.

Syntax Description

name string	The name of the server group to be deleted.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example removes the server group named `group1`:

```
SummitPx1:25 # unconfigure server-group name group1
* SummitPx1:26 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

unconfigure service

```
unconfigure service vip <IP address>
  port <port number>
  protocol [tcp | udp]
```

Description

Removes a service from the system.

Syntax Description

IP address	The virtual IP address of the service to be removed.
port number	The port for the service to be removed.
tcp	Specifies the TCP protocol.
udp	Specifies the UDP protocol.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You identify the service to be removed by the IP address and port to which Internet clients connect and the protocol (TCP or UDP) used by the service.

Removing a layer 7 service with this command also removes all domains and pattern rules that were configured for the specified service.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example removes the service to which clients connected using IP address 64.1.2.10, port 80, and TCP protocol.

```
SummitPx1:8 # unconfigure service vip 64.1.2.10 port 80 protocol tcp
* SummitPx1:9 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

4 Commands for Persistence Modes, and NAT Modes

This chapter describes commands for setting:

- Persistence modes
- NAT modes

configure gateway-mode add ipaddress

```
configure gateway-mode add
  ipaddress <IP address>
  {vrid <VRID number>}
  {vlan <vlan tag number>}
```

Description

Adds an IP address to be used in gateway mode on the application switch.

Syntax Description

IP address	The IP address of the gateway.
VRID number	The VRID of the VRRP class for the gateway; a number between 1 and 255.
vlan tag number	The VLAN tag for the gateway.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

When you configure half-NAT mode, you can also enable gateway mode for the application switch, and add at least one IP address. Specify an IP address that a server's default gateway can forward to, as if the application switch were another router. The application switch can then switch the forwarded traffic to another router, even one on another VLAN.

You may optionally specify a virtual router ID (VRID) for the VRRP class for gateway, and a VLAN for the gateway.

If VRRP is enabled, each VRRP class must have at lease one gateway IP address. A given VRRP class can have more than one gateway IP address. For more information about VRRP, see Chapter 5.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables gateway mode and adds 10.10.10.1 as an IP address that a server's default gateway can forward to.

```
SummitPx1::32 # enable gateway-mode
* SummitPx1::33 # configure gateway-mode add ipaddress 10.10.10.1
* SummitPx1::34 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure gateway-mode delete ipaddress

```
configure gateway-mode delete
  ipaddress <IP address>
  {vlan <vlan tag number>}
```

Description

Removes an IP address from used in gateway mode on the application switch.

Syntax Description

IP address	The IP address of the gateway.
vlan tag number	The VLAN tag for the gateway.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command removes 10.10.10.1 from used in gateway mode.

```
configure gateway-mode delete ipaddress 10.10.10.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure nat-mode full

```
configure nat-mode full
```

Description

Configures full-NAT mode (full Network Address Translation) on the application switch.

Syntax Description

This command has no parameters.

Default

Full-NAT mode is the default behavior of the application switch.

Usage Guidelines

You must have administrator privileges to issue this command.

In full-NAT mode, the server load balancer translates both the source and destination IP addresses—those of the client and the server—before sending the request onto the user. For the point of view of the server fulfilling the request, it appears as though the client making the request is actually the server load balancer.

Advantages of full-NAT mode are:

- No configuration is necessary on the layer 2/3 switch connected to the application switch.
- It can be deployed in any network architecture.
- Clients can be on the same subnet as the servers.
- It allows interoperation with any vendors switch, regardless of support for policy routing.

You must run in full-NAT mode if:

- Clients and servers are on the same layer 2 network segment.
- The switch connected to the application switch does not support layer 3 policy routing based on source IP address, port, and protocol.
- You do not have access to the layer 3 switch to configure policy based routing.

You must use the `build` command to commit the configuration changes made by this command.

Example

If another NAT mode was in use previously, use the following command to set it back to full:

```
configure nat-mode full
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure nat-mode server-only

```
configure nat-mode server-only
```

Description

Configures half-NAT mode (server-only Network Address Translation) on the application switch.

Syntax Description

This command has no parameters.

Default

Full-NAT mode is the default behavior of the application switch.

Usage Guidelines

You must have administrator privileges to issue this command.

In half-NAT mode, the application switch only translates the server IP address when dispatching the client requests to the real server. Half-NAT mode results in the server believing that the request came from the client, instead of the application switch. Using half-NAT mode, the server sees the real IP address of the client.

Half-NAT mode must be configured on both the application switch and the attached layer 3 switch. Policy-based routing allows layer 3 switches to make next-hop forwarding decisions based on information other than simply the IP destination address of the request.

On an Extreme switch, use the following ExtremeWare commands to configure the policy routes required for half-NAT:

```
create source-flow <name> source-ip <server ip> source-port <server-port> protocol tcp
   destination any
config source-flow <name> next-hop <SLB VIP>
```

These policy rules route all traffic from the load-balanced port on the server to the application switch. If other locally-attached networks need to use the facility provided by that port without using the load balancer, more specific rules need to be written to steer traffic directly back to the correct routers.

Advantages of Half-NAT mode are:

- Allows the server logs on the real web site to reflect the IP address of the real client making a request, rather than a proxy address of the application switch.
- Allows the use of IP address based security methods such as Unix Netgroups. This is primarily a concern for enterprise data centers.

NOTE

Half-NAT mode cannot be used if clients and servers are on the same layer 3 network. Policy-based routing occurs at layer 3 and cannot be applied without crossing a layer 3 network boundary.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command configures half-NAT mode on the application switch

```
configure nat-mode server-only
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure proxy-ip

```
configure proxy-ip <IP address> {- <IP address>}
```

Description

Sets a proxy IP address or a range of proxy addresses.

Syntax Description

IP address	A proxy IP address. Two IP addresses separated by a hyphen indicate a range of addresses; the command configures all addresses in the specified range as proxy IPs.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

To function properly in full-NAT mode, the application switch requires that proxy IP addresses be configured. These proxy addresses are used as the source IP addresses for the outbound connection to the server. One proxy address must be configured for each 63,000 sessions active at one time. For full system capacity, you must configure 32 IP addresses.

Proxy-IP addresses do not need to be contiguous. You can use multiple commands to specify different ranges of IP addresses to use as proxy addresses. The only restriction is that all addresses must be on the same subnet as the main system IP address.

NOTE

Do not change the proxy IP while the application switch is running.

If VRRP is also enabled, you typically must specify a different proxy IP address for each of the VRRP peers. The one exception to this requirement is that if you are using automatic synchronization and you have configured all VRRP classes to track failure of all other VRRP classes, then you may use the same proxy IP address on the two switches. For additional information about VRRP, see Chapter 5.

You must use the `build` command to commit the configuration changes made by this command. You must boot the application switch for the new proxy IP information to take effect.

Example

The following command configures 32 consecutive proxy IP addresses.

```
config proxy-ip 10.1.1.11 - 10.1.1.42
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure sticky client-ip timeout

```
configure sticky client-ip timeout
  [(<hours> : <minutes> : <seconds>) |
    infinity}]
```

Description

Sets the time after which client-IP entries are deleted from the stickiness table.

Syntax Description

hours	The number of hours in the timeout period; a two-digit number between 00 and 97.
minutes	The number of minutes in the timeout period; a two digit number between 00 and 59.
seconds	The number of seconds in the timeout period; a two digit number between 00 and 59.
infinity	Specifies that client-IP persistence should last forever.

Default

By default, entries are deleted from the stickiness table after 24 hours without use.

Usage Guidelines

You must have administrator privileges to issue this command.

The timer affects both layer 4 and layer 7. Valid values for the timeout period are in the range 00:00:05 (5 seconds) to 97:43:52. You can specify the keyword `infinity` to indicate that the stickiness should last forever.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example sets the timeout period for client-IP entries to 2 days (48 hours).

```
SummitPx1::22 # config sticky client-ip timeout 48:00:00
* SummitPx1::23 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure sticky cookie-id timeout

```
configure sticky cookie-id timeout
  [(<hours> : <minutes> : <seconds>) |
    infinity}]
```

Description

Sets the time after which cookie-ID entries are deleted from the stickiness table.

Syntax Description

hours	The number of hours in the timeout period; a two-digit number between 00 and 97.
minutes	The number of minutes in the timeout period; a two digit number between 00 and 59.
seconds	The number of seconds in the timeout period; a two digit number between 00 and 59.
infinity	Specifies that client-IP persistence should last forever.

Default

By default, entries are deleted from the stickiness table after 30 seconds without use.

Usage Guidelines

You must have administrator privileges to issue this command.

Valid values for the timeout period are in the range 00:00:05 (5 seconds) to 97:43:52. You can specify the keyword `infinity` to indicate that the stickiness should last forever.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example sets the timeout period for cookie-ID entries to 1 hour.

```
SummitPx1::22 # config sticky cookie-id timeout 01:00:00
* SummitPx1::3 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure sticky session-id timeout

```
configure sticky session-id timeout
  [(<hours> : <minutes> : <seconds>) |
    infinity}]
```

Description

Sets the time after which session-ID entries are deleted from the stickiness table.

Syntax Description

hours	The number of hours in the timeout period; a two-digit number between 00 and 97.
minutes	The number of minutes in the timeout period; a two digit number between 00 and 59.
seconds	The number of seconds in the timeout period; a two digit number between 00 and 59.
infinity	Specifies that client-IP persistence should last forever.

Default

By default, entries are deleted from the stickiness table after 30 seconds without use.

Usage Guidelines

You must have administrator privileges to issue this command.

Valid values for the timeout period are in the range 00:00:05 (5 seconds) to 97:43:52. You can specify the keyword `infinity` to indicate that the stickiness should last forever.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example sets the timeout period for session-ID entries to 1 hour.

```
SummitPx1::22 # config sticky session-id timeout 01:00:00
* SummitPx1::3 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure timeout established-connection

```
configure timeout established-connection <seconds>
```

Description

Sets the established-connection timeout period.

Syntax Description

seconds	The number of seconds in the established-connection timeout period; a number between 1 and 8000, inclusive.

Default

The default established-connection timeout is 30 seconds.

Usage Guidelines

You must have administrator privileges to issue this command.

This command sets the length of the established-connection timeout period. This timeout period is used for established TCP or UDP connections. Established connections that have no traffic for the specified time period will be torn down by the application switch. For TCP connections, a new 3-way handshake is required to restart the connection. A restart of either a TCP or a UDP connection is subject to the load-balancing policy for the target service and may not be bound to the same server as the original connection.

You can use this command to adjust the established-connection timeout period for protocols that exhibit long periods of inactivity; doing so will prevent premature termination of such connections.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the established-connection timeout to 1 minute (60 seconds).

```
configure timeout established-connection 60
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure timeout udp-flow-persistence

```
configure timeout udp-flow-persistence <seconds>
```

Description

Sets the UDP-flow-persistence timer.

Syntax Description

seconds	The number of seconds after which an idle UDP flow should be recycled; a number between 1 and 8000, inclusive.

Default

The default value for this timer is 40 seconds.

Usage Guidelines

You must have administrator privileges to issue this command.

The Px-series application switch provides UDP persistence. A UDP flow is recycled if it is idle for the time specified by the UDP-flow-persistence timer.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the UDP-flow-persistence timer to 1 minute (60 seconds).

```
configure timeout udp-flow-persistence 60
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable gateway-mode

```
disable gateway-mode
```

Description

Disables gateway mode on the application switch.

Syntax Description

This command has no parameters or options.

Default

Gateway mode is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example disables gateway mode.

```
SummitPx1::32 # disable gateway-mode
* SummitPx1::33 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable sticky

```
disable sticky
  [L4 client-ip |
   L7 [all | client-ip | cookie-id | session-id]]
```

Description

Disables the specified persistence (stickiness) mode.

Syntax Description

L4	Specifies layer 4.
L7	Specifies layer 7.
all	Specifies all persistence modes (client-IP, cookie-ID, and session-ID).
client-ip	Specifies client-IP persistence mode.
cookie-id	Specifies cookie-ID persistence mode.
session-id	Specifies session-ID persistence mode.

Default

By default, no persistence is enabled.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables layer 4 client-IP persistence mode:

```
disable sticky L4 client-ip
```

The following command disables layer 7 session-ID persistence mode:

```
disable sticky L7 session-id
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable gateway-mode

```
enable gateway-mode
```

Description

Enables gateway mode on the application switch.

Syntax Description

This command has no parameters or options.

Default

Gateway mode is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

When you configure half-NAT mode, you can also enable gateway mode for the application switch, and add at least one IP address (using the `configure gateway-mode add ipaddress` command).

If VRRP is enabled, you must specify at least one gateway-mode IP address for each active VRRP class *before* you enable gateway mode. An *active VRRP class* is one that contains at least one service. When you add a gateway-mode IP address with the `configure gateway-mode add ipaddress` command, you can specify the VRID of a VRRP class. A given VRRP class can have multiple gateway-mode IP addresses.

When gateway mode and VRRP are both enabled, you must also make sure every server responds to VIPs in a single VRRP class. That is, all services that use a particular server must be in the same VRRP class.

For more information about VRRP, see Chapter 5.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example enables gateway mode and adds 10.10.10.1 as an IP address that a server's default gateway can forward to.

```
SummitPx1::32 # enable gateway-mode
* SummitPx1::33 # configure gateway-mode add ipaddress 10.10.10.1
* SummitPx1::34 # build
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable sticky

```
enable sticky
  [L4 client-ip |
   L7 [all | client-ip | cookie-id | session-id]]
```

Description

Enables the specified persistence (stickiness) mode.

Syntax Description

L4	Specifies layer 4.
L7	Specifies layer 7.
all	Specifies all persistence modes (client-IP, cookie-ID, and session-ID).
client-ip	Specifies client-IP persistence mode.
cookie-id	Specifies cookie-ID persistence mode.
session-id	Specifies session-ID persistence mode.

Default

By default, no persistence is enabled.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables layer 4 client-IP persistence mode:

```
enable sticky L4 client-ip
```

The following command enables layer 7 session-ID persistence mode:

```
enable sticky L7 session-id
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

unconfigure proxy-ip

```
unconfigure proxy-ip <IP address> {- <IP address>}
```

Description

Removes a proxy IP address or a range of proxy addresses.

Syntax Description

IP address	A proxy IP address. Two IP addresses separated by a hyphen indicate a range of addresses; the command removes all addresses in the specified range.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

NOTE

Do not change the proxy-IP configuration while the application switch is running.

You must use the `build` command to commit the configuration changes made by this command. You must boot the application switch for the new proxy IP information to take effect.

Example

The following command unconfigures a proxy IP address.

```
unconfig proxy-ip 10.1.1.12
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

5 Commands for Configuring Redundancy

This chapter describes the following commands:

- Commands for using VRRP
- Commands for configuring a default gateway

VRRP

To reduce downtime, you can deploy two Px-series application switches that provide redundancy using Virtual Router Redundancy Protocol (VRRP), an industry standard failover mechanism (RFC 2338). *VRRP classes* are used to classify virtual services into groups for fail-over. Up to 16 VRRP classes are allowed. Each VRRP class is identified by a unique virtual router ID (VRID).

When VRRP is enabled:

- The same services must be configured on both application switches.
- Each service must be assigned to a particular VRRP class.
- When you configure a given service on the two switches, you must use the same VRID for the service on both switches.

Each Px-series application switch in the pair can be in either active or backup state on a particular VRRP class. The active switch is the one that handles virtual services in that VRRP class. In the event of failure of the active switch, the backup switch automatically takes over. At any given time, a particular VIP will be active on one application switch only—the switch on which the corresponding VRRP class is active.

The two switches operating in this mode are called *VRRP peers*.

In the simplest case (called active-passive VRRP), a single VRRP class is used for all services and one switch is active on that VRRP class while the other switch is the backup. In the more general case (called active-active VRRP), you configure the switches so that the first switch is active on one set of VRRP classes and the other switch is active on a different, disjoint sets of VRRP classes.

VRRP Properties

Each application switch maintains three properties for each configured VRRP class.

- The switch's priority for that VRRP class

  The switch with the higher priority for a given VRRP class is the primary device for that class; the switch with the lower priority is the secondary device for the class. The primary device will initially be active for the VRRP class (handling the virtual services in that class); the secondary device will initially be the backup. If the active switch fails, the backup switch takes over automatically.

  The default value for this property is 100; the value can be changed with the `configure vrrp priority` command.

  The priority 255 is called *master priority*. Whenever a switch with master priority is available, that switch handles the VRRP class.

- Whether the switch should preempt the active system when it has higher priority for the VRRP class

  If a transition occurs because the primary device goes down, this property determines what happens when the primary device comes back up. This property is relevant only on the primary switch for the VRRP class and only if that switch does not have master priority. (A switch with master priority *always* preempts the active system when it comes back up.)

  This property can be set to either `preempt` or `dont-preempt`.

Value	Meaning
preempt	When the primary device comes back up, it automatically takes over as active and the secondary device becomes the backup once again
dont-preempt	The secondary device continues being active after the primary device comes up; the primary device is then the backup

  The default value for this property is `dont-preempt`; the value can be changed with the `configure vrrp preempt|dont-preempt` command.

- The frequency of advertisement intervals for the VRRP class

  Each switch periodically sends VRRP advertisements to the other switch via the Gigabit port, thus checking to see whether the other switch is in operation. This property controls the frequency of these checks; the lower the value, the faster failover occurs when the active switch goes down. The default value for this property is 1 second. The value can be changed with the `configure vrrp advertisement-interval` command.

VRRP Automatic Synchronization

VRRP automatic synchronization (auto-sync) allows you to designate one Px-series application switch as the *master* switch and the other as the *backup*. Automatic synchronization ensures that both switches have the same configuration for servers, server groups, services, domains, and pattern rules. Synchronization is performed by copying configuration from the master switch to the backup switch.

When automatic synchronization is enabled:

- If services have already been configured on the master switch, you can issue the `configure vrrp auto-sync forcesync` command on the master switch to synchronize the backup switch. Configuration commands for servers, server groups, services, domains, and pattern rules are sent

from the master to the backup, replacing the corresponding commands on the backup. After all the commands have been replaced, the configuration is saved and the backup switch is rebooted.

- Whenever a relevant configuration command is issued on the master switch, the command is automatically send to the backup switch, where it is stored in local memory. When a `build` command is issued on the master switch, the backup executes the stored commands in sequence and issues its own `build` command. The backup switch does *not* save the result. If you do not explicitly issue the `save configuration` command on the backup switch before the next boot, the configuration is lost.

Serial-Cable Failover

Serial-cable failover provides faster (sub-second) failover between the VRRP peers. When this feature is enabled, in addition to sending and receiving VRRP advertisements via the Gigabit port, the VRRP peers also exchange heartbeat messages by using the second serial port on each switch. A null-modem serial cable is used. If the either switch does not receive heartbeats from its VRRP peer, it initiates a failover. The failover latency is currently set to approximately one second.

The heartbeat interval property controls the frequency at which the switch sends heartbeat messages. The lower the value, the faster failover occurs when the active switch goes down. The default value for this property is 500 millisecond. The value can be changed with the `configure vrrp serial-failover interval` command.

If you enable serial-cable failover on one switch and do not enable serial-cable failover on its VRRP peer, there will be a temporary glitch because all the VRRP classes will attempt to become active on the switch where serial-cable failover is enabled. This is an install issue when serial-cable failover is first enabled. The following messages that will be logged when VRRP serial-cable failover is deployed:

```
00:03:56   0 days:INFO: Enable VRRP serial failover
00:03:56   0 days:INFO: Disable VRRP serial failover
00:03:56   0 days:INFO:VRRP serial cable CTS asserted
00:03:56   0 days:INFO:VRRP serial cable CTS desserted
00:01:43   0 days:WARNING:VRRP serial heartbeats from peer missing!
00:01:55   0 days:WARNING:Received serial cable heartbeat msg when serial failover is
      not enabled!"
```

These messages may be logged whenever you change the configuration of VRRP serial-cable failover, or in response to changes on the serial link that joins the two VRRP peers.

Server-Health Failover

You can configure an application switch so that one of the failover criteria for a VRRP class is the number of servers in that class that are down (as per health check) on the other switch. To use this feature for a particular class, you issue the `configure vrrp add track-servers-delta` command. This command specifies a limit on the difference between the number of servers for that class on the two switches. The backup switch attempts to become active if sees that many more servers than the other switch sees.

The limit for each VRRP class must configured the same on both switches.

For example, suppose that:

- VRRP class 201 contains a total of 100 servers.
- Switches A and B are VRRP peers.
- Both switches sets the `track-servers-delta` limit for class 201 to 10.
- Switch B is active for class 201.
- Switch A sees 90 healthy servers

As long as machine B see 81 or more healthy servers, it remains active. If switch B sees 80 or fewer healthy servers, then the switch A will attempt to preempt switch B and become active for VRRP class 201.

Tracking Failure Between VRRP Classes

By default, each VRRP class will failover independently of the other classes. If desired, you can configure one VRRP class to track another VRRP class for failover. If the tracked class fails, the tracking class will also failover. To make one switch a complete standby for the other, you can configure every classes to failover when any other class fails. You configure tracking between VRRP classes with the `configure vrrp add track-vrid` command.

The tracking configuration must be the same on both switches.

configure default-gateway

```
configure default-gateway {add} <IP address>
```

Description

Adds the specified IP address as a default gateway.

Syntax Description

IP address	The IP address of the default gateway to be added.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can have only two default gateways at a time. The first default gateway you configure is used by default. If you want to use the second default gateway, issue the `configure default-gateway switch` command. You can later change back to the first default gateway by issuing the `configure default-gateway switch` command again.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example adds a default gateway with the IP address 10.6.2.1.

```
SummitPx1::12 # configure default-gateway add 10.6.2.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure default-gateway delete

```
configure default-gateway delete <IP address>
```

Description

Removes the specified IP address as a default gateway.

Syntax Description

IP address	The IP address of the default gateway to be removed.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example removes the default gateway with the IP address 10.6.2.1.

```
SummitPx1::12 # configure default-gateway delete 10.6.2.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure default-gateway switch

```
configure default-gateway switch
```

Description

Switches from the default gateway currently being used to the other default gateway (assuming that two default gateways have been configured).

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command switches default gateways.

```
configure default-gateway switch
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp add master vrid

```
configure vrrp add master vrid <VRID number>
```

Description

Adds a VRRP class to the application switch, giving the switch master priority for this class.

Syntax Description

VRID number	The VRID of the VRRP class to be added; a number between 1 and 255.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

A switch can have a total of 16 different VRRP classes.

The new VRRP class is configured to have a priority of 255. It's advertisement interval is 1 second. The preempt property is irrelevant for the new class because a switch with master priority always preempts the active switch.

To add a VRRP class with the default priority, use the `configure vrrp add vrid` command instead of this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command adds a VRRP class with the VRID 2 and priority 255.

```
configure vrrp add master vrid 2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp add track-servers-delta

```
configure vrrp vrid
  [<VRID number> | all]
  add track-servers-delta <number>
```

Description

Enables server-health failover for the specified VRRP class(es).

Syntax Description

VRID number	The VRID of the VRRP class; a number between 1 and 255.
all	Specifies all VRRP classes.
number	Limit on the difference between the number of healthy servers of the class that this switch sees and the number that the active switch sees; the number may not be less than 5.

Default

Server-health failover is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You can use this command to enable server-health failover for one particular VRRP class or for all currently configured VRRP classes. For each specified class:

- Neither switch should have master priority (255) for the class.
- Both switches' preemption behavior for the class must be `dont-preempt`.
- You must configure the same `track-servers-delta` limit for the class on both switches.
- If the specified `track-servers-delta` limit is higher than the number of servers in the class, the limit is set to the actual number of servers in the class.

You should not specify too low a number for the `track-servers-delta` limit. Too low a number may cause *flapping*—an unstable state in which neither switch is active for a significant period of time.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables server-health failover for VRRP class 201, setting the `track-servers-delta` limit to 10.

```
configure vrrp vrid 201 add track-servers-delta 10
```

If class 201 contains a total of 100 servers, this switch is the backup for class 201, and this switch sees 90 healthy servers in class 201, then this switch will attempt to become active for class 201 if its VRRP peer sees 80 or fewer healthy servers.

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp add track-vrid

```
configure vrrp vrid
  [<tracking VRID number> | all]
  add track-vrid [<tracked VRID number> | all]
```

Description

Adds failure tracking between the specified VRRP classes.

Syntax Description

tracking VRID number	The VRID of the VRRP class that tracks failure; a number between 1 and 255.
tracked VRID number	The VRID of the VRRP class whose failure is tracked; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

By default, each VRRP class will failover independently of the other classes; that is, no class tracks any other class.

Usage Guidelines

You must have administrator privileges to issue this command.

You can specify one particular VRRP class or all currently configured VRRP classes as either the tracking class or the tracked class. For each specified tracked class and each specified tracking class:

- Neither switch should have master priority (255) for the class.
- Both switches' preemption behavior for the class must be `dont-preempt`.

NOTE

You must configure the identical tracking behavior on both switches.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command causes VRRP class 101 to track class 100; if class 100 fails, class 101 should also failover:

```
configure vrrp vrid 101 add track-vrid 100
```

The following command causes VRRP class 101 to track all other classes; if any class besides 101 fails, class 101 should also failover:

```
configure vrrp vrid 101 add track-vrid all
```

The following command causes all classes besides class 100 to track class 100; if class 100 fails, all other classes should also failover:

```
configure vrrp vrid all add track-vrid 100
```

The following command causes every class to track every other class; if any class fails, all other classes should also failover:

```
configure vrrp vrid all add track-vrid all
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp add vrid

```
configure vrrp add {backup} vrid <VRID number>
```

Description

Adds a VRRP class to the application switch.

Syntax Description

VRID number	The VRID of the VRRP class to be added; a number between 1 and 255.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

A switch can have a total of 16 different VRRP classes. The new VRRP class is configured to have a priority of 100. It does not preempt. It's advertisement interval is 1 second.

To add a VRRP class with the master priority, use the `configure vrrp add master vrid` command instead of this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command adds a VRRP class with the VRID 1.

```
configure vrrp add vrid 1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp advertisement-interval

```
configure vrrp vrid
  [<VRID number> | all]
  advertisement-interval <seconds>
```

Description

Sets this switch's advertisement interval for the specified VRRP class(es).

Syntax Description

VRID number	The VRID of the VRRP class to be configured; a number between 1 and 255.
all	Specifies all VRRP classes.
seconds	The number of seconds in the interval between sending VRRP advertisements to the other switch.

Default

The default advertisement interval is 1 second.

Usage Guidelines

You must have administrator privileges to issue this command.

The smaller the advertisement interval, the faster this switch takes over when the other switch fails. You cannot set this property to less than 1 second.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the switch's advertisement interval to 2 seconds for all VRRP classes.

```
configure vrrp vrid all advertisement-interval 2
```

History

This form of this command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp auto-sync backup

```
configure vrrp auto-sync backup partner-ip <IP address>
```

Description

Sets the IP address for the backup switch for automatic synchronization.

Syntax Description

IP address	The IP address of the other switch.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You issue this command on the master switch for automatic synchronization. This command establishes the switch as the master switch and identifies the corresponding backup switch. You can specify the system IP address of the backup switch (as set by the `configure system-ip` command) or the management IP address (as set by the `configure mgmt ipaddress` command).

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command establishes the switch as the master switch for automatic synchronization and identifies the backup switch as the switch with IP address 10.2.3.4.

```
configure vrrp auto-sync backup partner-ip 10.2.3.4
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp auto-sync forcesync

```
configure vrrp auto-sync forcesync
```

Description

Forces automatic synchronization from the master switch to the backup switch.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

When automatic synchronization is enabled, you can issue this command on the master switch. The result is that configuration commands for servers, server groups, services, domains, and pattern rules are sent from this switch to the backup switch that was identified with the `configure vrrp auto-sync backup` command. The copied commands replace the corresponding commands on the backup switch. After all the commands have been replaced, the configuration is saved and the backup switch is rebooted.

If you issue this command on the backup switch, an error is reported.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command forces automatic synchronization.

```
configure vrrp auto-sync forcesync
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp auto-sync master

```
configure vrrp auto-sync master partner-ip <IP address>
```

Description

Sets the IP address for the master switch for automatic synchronization.

Syntax Description

IP address	The IP address of the other switch.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You issue this command on the backup switch for automatic synchronization. This command establishes the switch as the backup switch and identifies the corresponding master switch. You can specify the system IP address of the master switch (as set by the `configure system-ip` command) or the management IP address (as set by the `configure mgmt ipaddress` command).

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command establishes the switch as the backup switch for automatic synchronization and identifies the master switch as the switch with IP address 10.4.3.2.

```
configure vrrp auto-sync backup partner-ip 10.4.3.2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp change vrid

```
configure vrrp change vrid
  [<source VRID number> | all]
  to <destination VRID number>
```

Description

Changes the VRRP class for services.

Syntax Description

source VRID number	The VRID of the VRRP class containing the services to be moved; a number between 1 and 255.
all	Specifies that all services should be moved to the destination VRRP class.
destination VRID number	The VRID for the destination VRRP class to which the services should be moved; a number between 1 and 255.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command moves services to a destination VRRP class. You can move just those services in a particular source VRRP class or all configured services.

- If you specify a particular source VRRP class, this command moves all the services in that source class to the destination class and then deletes the source class.
- If you specify the keyword `all`, this command moves all services to the destination class—even services that were configured with no VRID (because they were configured before VRRP was enabled). This form of the command deletes all previously existing VRRP classes, except the destination class.

If the specified destination class does not already exist, this command adds that class as if you had issued the command:

`configure vrrp add vrid <destination VRID number>`

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command moves the services in the VRRP class 3 into the VRRP class 4, adding VRRP class 4 if necessary. It also deletes VRRP class 3.

```
configure vrrp change vrid 3 to 4
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp delete track-servers-delta

```
configure vrrp vrid
  [<VRID number> | all]
  delete track-servers-delta
```

Description

Disables server-health failover for the specified VRRP class(es).

Syntax Description

VRID number	The VRID of the VRRP class; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

Server-health failover is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You can use this command to disable server-health failover for one particular VRRP class or for all currently configured VRRP classes.

NOTE

You must configure the identical tracking behavior on both switches.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables server-health failover for VRRP class 201.

```
configure vrrp vrid 201 delete track-servers-delta
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp delete track-vrid

```
configure vrrp vrid
  [<tracking VRID number> | all]
  delete track-vrid [<tracked VRID number> | all]
```

Description

Removes failure tracking between the specified VRRP classes.

Syntax Description

tracking VRID number	The VRID of the VRRP class that tracks failure; a number between 1 and 255.
tracked VRID number	The VRID of the VRRP class whose failure is tracked; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

By default, each VRRP class will failover independently of the other classes; that is, no class tracks any other class.

Usage Guidelines

You must have administrator privileges to issue this command.

NOTE

You must configure the identical tracking behavior on both switches.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command causes VRRP class 101 to stop tracking class 100:

```
configure vrrp vrid 101 delete track-vrid 100
```

The following command causes VRRP class 101 to stop tracking any class that it is currently tracking:

```
configure vrrp vrid 101 delete track-vrid all
```

The following command causes any class that is currently tracking class 100 to stop tracking class 100:

```
configure vrrp vrid all delete track-vrid 100
```

The following command causes every class to stop track any class that it is currently tracking:

```
configure vrrp vrid all delete track-vrid all
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp delete vrid

```
configure vrrp delete vrid
  [<VRID number> | all]
```

Description

Deletes VRRP classes from the application switch.

Syntax Description

VRID number	The VRID of the VRRP class to be deleted; a number between 1 and 255.
all	Specifies that all VRRP classes should be deleted.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You can use this command to delete a particular VRRP class or all currently configured VRRP classes.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command deletes the VRRP class with the VRID 1.

```
configure vrrp delete vrid 1
```

The following command deletes all VRRP classes.

```
configure vrrp delete all
```

History

This form of this command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp force-slave

```
configure vrrp vrid
  [<VRID number> | all]
  force-slave
```

Description

Forces the application switch to attempt to become the backup device for the specified VRRP class(es).

Syntax Description

VRID number	The VRID of the VRRP class; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

When the switch is active, you can issue this command to force the switch to become the backup device. You can make the switch the backup for one particular VRRP class or for all currently configured VRRP classes. For each specified class, the switch's preemption behavior for the class must be `dont-preempt`.

If this switch is already the backup for a specified class, no addition action is required.

After the switch is made the backup for a specified class, it can become active again following the normal VRRP behavior. For example, the switch becomes active again if its VRRP peer is unavailable.

Example

The following command forces the switch to attempt to become the backup device for VRRP class 100.

```
configure vrrp vrid 100 force-slave
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp preempt|dont-preempt

```
configure vrrp vrid
  [<VRID number> | all]
  [preempt | dont-preempt]
```

Description

Configures the switch's preemption behavior for the specified VRRP class(es).

Syntax Description

VRID number	The VRID of the VRRP class to be configured; a number between 1 and 255.
all	Specifies all VRRP classes.
preempt	Specifies that this switch should preempt the secondary switch.
dont-preempt	Specifies that this switch should not preempt the secondary switch.

Default

The default value for this property is `dont-preempt`.

Usage Guidelines

You must have administrator privileges to issue this command.

This command is relevant only if this switch is the primary device for the specified VRRP class(es), that is if its priority for those classes is higher than the other switch's priority for the classes.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command causes this switch to preempt the secondary switch for VRRP class 2.

```
configure vrrp vrid 2 preempt
```

History

This form of this command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp priority

```
configure vrrp vrid
  [<VRID number> | all]
  priority <priority number>
```

Description

Sets this switch's priority for the specified VRRP class(es).

Syntax Description

VRID number	The VRID of the VRRP class whose priority is to be set; a number between 1 and 255.
all	Specifies all VRRP classes.
priority number	The switch's priority for the specified VRRP class(es); a number in between 1 and 255, inclusive.

Default

The default priority is 100. A VRRP class added with the `configure vrrp add vrid` command has the priority value 100; a class added with the `configure vrrp add master vrid` command has the priority value 255.

Usage Guidelines

You must have administrator privileges to issue this command.

The two switches should have different priorities for each VRRP class. The switch with the higher priority for a given class is the primary device for that class; the switch with the lower priority is the secondary device for that class.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the switch's priority to 200 for the VRRP class with VRID 1.

```
configure vrrp vrid 1 priority 200
```

The following command makes this switch the master device for all VRRP classes by setting the switch's priority to 255 for all classes.

```
configure vrrp vrid all priority 255
```

History

This form of this command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

configure vrrp serial-failover interval

```
configure vrrp serial-failover interval <milliseconds>
```

Description

Configures the heartbeat interval for VRRP serial-cable failover.

Syntax Description

milliseconds	The number of milliseconds in the interval between sending heartbeat messages to other switch; a number between 100 and 1000, inclusive.

Default

By default, the heartbeat interval is 500 ms.

Usage Guidelines

You must have administrator privileges to issue this command.

The serial-failover mechanism waits for approximately twice the heartbeat interval before it assumes that the other switch is dead and initiates failover.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the heartbeat interval to 200 milliseconds.

```
configure vrrp serial-failover interval 200
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

disable vrrp

```
disable vrrp
```

Description

Disables VRRP on the application switch.

Syntax Description

This command has no parameters or options.

Default

VRRP is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

If VRRP is enabled on two Px-series application switches and you need to disable VRRP on one switch, you should first make sure that the other switch is either powered down or off the network. Network issues may arise if you fail to remove the other switch, because both switches will be active on the same services or gateway-mode IP addresses.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables VRRP.

```
disable vrrp
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable vrrp auto-sync

```
disable vrrp auto-sync
```

Description

Disables VRRP automatic synchronization on the application switch.

Syntax Description

This command has no parameters or options.

Default

VRRP automatic synchronization is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This command disables VRRP automatic synchronization.

```
disable vrrp auto-sync
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable vrrp serial-failover

```
disable vrrp serial-failover
```

Description

Disables VRRP serial failover on the application switch.

Syntax Description

This command has no parameters or options.

Default

VRRP serial failover is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This command disables VRRP serial failover.

```
disable vrrp serial-failover
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

enable vrrp

```
enable vrrp
```

Description

Enables VRRP on the application switch.

Syntax Description

This command has no parameters or options.

Default

VRRP is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

Before you enable VRRP on a switch, you must ensure that each configured service has been assigned a VRID number. You can assign a VRID number to a service when you create it (with the `configure service L4` or `configure service L7` command). If you did not initially assign VRID number to services, you can use the `configure vrrp change vrid` command to assign a particular VRID number to all services.

If gateway mode must be enabled, you must specify at least one gateway-mode IP address for each active VRRP class *before* you enable gateway mode. An *active VRRP class* is one that contains at least one service. When you add a gateway-mode IP address with the `configure gateway-mode add ipaddress` command, you can specify the VRID of a VRRP class. A given VRRP class can have multiple gateway-mode IP addresses.

When gateway mode and VRRP are both enabled, you must also make sure every server responds to VIPs in a single VRRP class. That is, all services that use a particular server must be in the same VRRP class.

The commands relevant to gateway mode are described in Chapter 4.

You must use the `build` command to commit the configuration changes made by this command.

Example

This command enables VRRP.

```
enable vrrp
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable vrrp auto-sync

```
enable vrrp auto-sync
```

Description

Enables VRRP automatic synchronization on the application switch.

Syntax Description

This command has no parameters or options.

Default

VRRP automatic synchronization is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

If this switch is to be the master switch, you must issue to `configure vrrp auto-sync backup` to identify the corresponding backup switch. If this switch is to be the backup switch, you must issue to `configure vrrp auto-sync master` to identify the corresponding master switch.

You must use the `build` command to commit the configuration changes made by this command.

Example

This command enables VRRP automatic synchronization.

```
enable vrrp auto-sync
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable vrrp serial-failover

```
enable vrrp serial-failover
```

Description

Enables VRRP serial failover on the application switch.

Syntax Description

This command has no parameters or options.

Default

VRRP serial failover is disabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This command enables VRRP serial failover.

```
enable vrrp serial-failover
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

unconfigure vrrp auto-sync backup

```
unconfigure vrrp auto-sync backup partner-ip <IP address>
```

Description

Unconfigures the backup switch for automatic synchronization.

Syntax Description

IP address	The system IP address of the current backup switch, as set by the `configure vrrp auto-sync backup` command

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You issue this command on the master switch for automatic synchronization. You use this command when you want to change the switch from being master to being backup.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command unconfigures the backup switch with IP address 10.2.3.4.

```
unconfigure vrrp auto-sync backup partner-ip 10.2.3.4
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

unconfigure vrrp auto-sync master

```
unconfigure vrrp auto-sync master partner-ip <IP address>
```

Description

Unconfigures the master switch for automatic synchronization.

Syntax Description

IP address	The system IP address of the current master switch, as set by the `configure vrrp auto-sync master` command

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

You issue this command on the backup switch for automatic synchronization. You use this command when you want to change the switch from being backup to being master.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command unconfigures the master switch with IP address 10.4.3.2.

```
unconfigure vrrp auto-sync master partner-ip 10.4.3.2
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

6 Health-Check Commands

This chapter describes commands for configuring health checks.

Types of Health Checks

The application switch supports the following types of health checks:

- **ICMP Ping**—Uses ICMP "echo request" to ensures that the host is reachable. In general, this does not provide any information about application health, but provides the simplest check.
- **TCP Open** —Opens a connection to a specified TCP/IP port. Optionally, the application switch can compare the response sent upon open to a preconfigured string to further ensure that the application responded correctly.
- **HTTP**— Sends an actual HTTP request to the server, typically a GET request. Optionally, the application switch can compare the returned page to a preconfigured string to further ensure that the application responded correctly.

You configure the type of health check for each server group. The same type of health check is performed on all servers in a given server group. The server itself always performs ping health checks. If you configure TCP-open or HTTP checks, those checks will be performed as well.

If health checks are enabled, and you do not specifically configured the type of health check for a particular server group, that group uses ping health checks by default.

Health Check Properties

The application switch maintains values for four properties that control the health-check procedure:

Property	Meaning	Global Default Value
interval	Time interval between successful configured health checks	30 seconds
retry-interval	Time interval between rechecks after a failed health check	10 seconds
fail-after	Number of consecutive failed health checks after which a server is removed from service	2
restore-after	Number of consecutive successful health checks after which a server is returned to service	2

You can change the global default values for these properties. In addition, you configure these properties for each server group. The same property values are used for all servers in a given server group.

If health checks are enabled, and you do not specifically configure a particular property for a particular server group, that group uses the property's global default value.

If you change the global default value for any property, the new global default will be used by any server group that did not specifically configure that particular.

If the CPU is swamped by too many health checks or other tasks, the interval and retry-interval times may be stretched. By design, health checks are randomized. The average interval between two consecutive health checks is interval; however, any individual check is performed using a minor randomized interval of interval plus or minus 50%. The actual interval between any particular pair of consecutive health checks may be as short as interval / 2 or as long as `interval * 3 / 2`.

Health Check Procedure

The health check procedure:

1. As soon as the system comes up or a server is enabled, a health check is performed on the server. If it passes, the server goes into service immediately; if not, it remains out of service.
2. As long as the server is in service, the health check is repeated every `interval` seconds. If the server passes a health check, it remains in service; if it fails, it is removed from service.
3. If the server fails a health check, it is rechecked after `retry-interval` seconds.
   - If a recheck fails, the recheck is repeated after `retry-interval` seconds. After `fail-after` consecutive failures, the server is removed from service.
   - If a recheck succeeds, the recheck is repeated after `retry-interval` seconds. After `restore-after` consecutive successes, the server is put into service.

ARP Checks

In addition to the health check described in the preceding sections, an additional check is performed automatically for servers on the same network as the application switch's system IP. In this situation, the switch sends periodically sends ARP requests to each server in its network. The switch uses information in the ARP response when it sends traffic to servers on the local network

The global property `arp-interval` controls the frequency with which ARP checks are performed. This property is initially set to 5 minutes; that is, an ARP signal is send to a server in the same network as the system IP every 5 minutes—in addition to any ping, TCP open, or HTTP health check that is configured for the sever.

You can change the value of the `arp-interval` property with the `configure health-check arp-interval` command.

configure health-check arp-interval

```
configure health-check arp-interval <minutes>
```

Description

Sets the global `arp-interval` property.

Syntax Description

minutes	The number of minutes between ARP checks for servers in the same network as the application switch system IP; a number between 1 and 1000, inclusive.

Default

Initially, the value for the `arp-interval` property is 5 minutes.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command changes the `arp-interval` property to 10 minutes.

```
configure health-check arp-interval 10
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure health-check fail-after

```
configure health-check fail-after <number>
```

Description

Configures the global default value for the `fail-after` property.

Syntax Description

number	The global default value for the number of consecutive failed health checks after which a server is removed from service.

Default

Initially, the global default value for the `fail-after` property is 2.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command changes the global default value for the `fail-after` property to 3.

```
configure health-check fail-after 3
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure health-check interval

```
configure health-check interval <seconds>
```

Description

Configures the global default value for the `interval` property.

Syntax Description

seconds	The global default value for the time interval between successful health checks; a number between 2 and 255, inclusive.

Default

Initially, the global default value for the `interval` property is 30 seconds.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command changes the global default value for the `interval` property to 45 seconds.

```
configure health-check interval 45
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure health-check restore-after

```
configure health-check restore-after <number>
```

Description

Configures the global default value for the `restore-after` property.

Syntax Description

number	The global default value for the number of consecutive successful health checks after which a server is returned to service

Default

Initially, the global default value for the `restore-after` property is 2.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command changes the global default value for the `restore-after` property to 3.

```
configure health-check restore-after 3
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure health-check retry-interval

```
configure health-check retry-interval <seconds>
```

Description

Configures the global default value for the `retry-interval` property.

Syntax Description

seconds	The global default value for the time interval between rechecks after a failed health check.

Default

Initially, the global default value for the `retry-interval` property is 10 seconds.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command changes the global default value for the `retry-interval` property to 15 seconds.

```
configure health-check retry-interval 15
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server slow-start initial-connections

```
configure server slow-start initial-connections <number>
```

Description

Sets the global initial maximum number of connections to a server.

Syntax Description

number	The initial maximum number of connections to a server; a number between 1 and 100, inclusive.

Default

The initial maximum defaults to 5 connections.

Usage Guidelines

You must have administrator privileges to issue this command.

The number of connections over time for a particular server are calculated from an initial maximum number of connections, and an interval. When a server is brought up, connections are limited to the initial maximum number. After the number of seconds configured for the interval, the maximum number of connections allowed is doubled.

This command sets the global initial maximum. You set the interval with the `configure server slow-start interval` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the global initial maximum number of connections to 10.

```
configure server slow-start initial-connections 10
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server slow-start interval

```
configure server slow-start interval <seconds>
```

Description

Sets the global interval used to adjust the limit for server connections.

Syntax Description

seconds	The global interval between server connections.

Default

The interval defaults to 5 seconds.

Usage Guidelines

You must have administrator privileges to issue this command.

The number of connections over time for a particular server are calculated from an initial maximum number of connections, and an interval. When a server is brought up, connections are limited to the initial maximum number. After the number of seconds configured for the interval, the maximum number of connections allowed is doubled.

This command sets the global interval. You can set the initial maximum number of connections with the `configure server slow-start initial-connections` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the global interval to 3 seconds.

```
configure server slow-start interval 3
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group health-check fail-after

```
configure server-group name <name string> health-check
  fail-after <number>
```

Description

Configures the `fail-after` property for the specified server group.

Syntax Description

name string	The name of the server group for which to configure the property.
number	The number of consecutive failed health checks after which a server in the specified group is removed from service.

Default

If this command is not issued, the global default value for the `fail-after` property is used.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the `fail-after` property to 3 for the server group named `srvgroup1`.

```
configure server-group name "srvgroup1" health-check fail-after 3
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group health-check http

```
configure server-group name <name string> health-check http
  {object <object string> {return <return string>}}
```

Description

Configures HTTP health checks for the specified server group.

Syntax Description

name string	Name of the server group for which to configure the health-check type.
object string	Name of the object to be retrieved.
return string	String to match in the returned page.

Default

If no health-check type is configured for a server group, that group uses ping health checks by default.

Usage Guidelines

You must have administrator privileges to issue this command.

The `object` parameter specifies the name of the object to be retrieved by an HTTP GET request. You may also use the `return` parameter to specify a string to match in the returned page. When the health check is performed on a server:

1. A connection is opened to the port configured for the server. The health check fails if the connection cannot be opened.
2. If the `object` parameter was specified, that the health check requests the specified object. The health check fails if no object is returned.
3. If the `return` parameter was specified, the health check examines the first 1000 bytes of returned text to see if it contains the specified return string; the health check passes if the return string is found.

   If the `return` parameter was not specified, the HTTP response codes are checked. Acceptable HTTP response codes are 200-299 and 401.

If you omit the `object` parameter, when the health check is performed on a server:

1. A connection is opened to the port configured for the server. The health check fails if the connection cannot be opened.
2. The health check sends an HTTP “head” request (HEAD / HTTP/1.0\r\n\r\n) to the server. The HTTP response codes are checked. Acceptable HTTP response codes are 200-299 and 401.

All data requests use HTTP 1.0.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command configures the server group named `sg1` to use HTTP GET health checks that request the object `index.html`:

```
configure server-group name "sg1" health-check http object index.html
```

The following command configures the server group named `sg1` to use HTTP GET health checks that request the object `index.html` and check for the string `"Welcome"`:

```
configure server-group name "sg1" health-check object index.html return "Welcome"
```

The following command configures the server group named `extr` to use HTTP GET health checks that do a “head /” on the server:

```
configure server-group name "extr" health-check http
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group health-check interval

```
configure server-group name <name string> health-check
  interval <seconds>
```

Description

Configures the `interval` property for the specified server group.

Syntax Description

name string	The name of the server group for which to configure the property.
seconds	The time interval between successful health checks for servers in the specified group.

Default

If this command is not issued, the global default value for the `interval` property is used.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the `interval` property to 45 seconds for the server group named `srvgroup1`.

```
configure server-group name "srvgroup1" health-check interval 45
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group health-check ping

```
configure server-group name <name string> health-check ping
```

Description

Configures ping health checks for the specified server group.

Syntax Description

name string	Name of the server group for which to configure the health-check type.

Default

If no health-check type is configured for a server group, that group uses ping health checks by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command configures the server group named `sg1` to use ping health checks.

```
configure server-group name "sg1" health-check ping
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group health-check restore-after

```
configure server-group name <name string> health-check
  restore-after <number>
```

Description

Configures the `restore-after` property for the specified server group.

Syntax Description

name string	The name of the server group for which to configure the property.
number	The number of consecutive successful health checks after which a server in the specified group is returned to service.

Default

If this command is not issued, the global default value for the `restore-after` property is used.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the `restore-after` property to 3 for the server group named `srvgroup1`.

```
configure server-group name "srvgroup1" health-check restore-after 3
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group health-check retry-interval

```
configure server-group name <name string> health-check
  retry-interval <seconds>
```

Description

Configures the `retry-interval` property for the specified server group.

Syntax Description

name string	The name of the server group for which to configure the property.
seconds	The time interval between rechecks after a failed health check for servers in the specified group.

Default

If this command is not issued, the global default value for the `retry-interval` property is used.

Usage Guidelines

You must have administrator privileges to issue this command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command sets the `retry-interval` property to 15 seconds for the server group named `srvgroup1`.

```
configure server-group name "srvgroup1" health-check retry-interval 15
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

configure server-group health-check tcp-open

```
configure server-group name <name string> health-check tcp-open
  return <return string>
```

Description

Configures TCP open health checks for the specified server group.

Syntax Description

name string	Name of the server group for which to configure the health-check type.
return string	String to be compared to the response.

Default

If no health-check type is configured for a server group, that group uses ping health checks by default.

Usage Guidelines

You must have administrator privileges to issue this command.

When a TCP open health check is performed on a server:

1. A connection is opened to the port configured for the server. The health check fails if the connection cannot be opened.
2. If the `return` parameter was specified, the health check compares the response returned by the open operation to the specified return string. The health check fails if the return string does not match the response.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command configures the server group named `sg1` to use TCP open health checks:

```
configure server-group name "sg1" health-check tcp-open
```

The following command configures the server group named `sg1` to use TCP open health checks, that check for the return string `"HELLO"`:

```
configure server-group name "sg1" health-check tcp-open return "HELLO"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable health-check

```
disable health-check
```

Description

Disables the health-check facility.

Syntax Description

This command has no parameters or options.

Default

The health-check facility is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

When health-check facility is disabled, no health checks are performed.

To disable health checks for a particular server group without disabling the entire health-check facility, issue the `disable health-check server-group-name` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables the health-check facility.

```
disable health-check
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable health-check server-group-name

```
disable health-check server-group-name <name string>
```

Description

Disables health checks for a specified server group.

Syntax Description

name string	The name of the server group for which health checks are to be disabled.

Default

Health checks are enabled for all server groups by default.

Usage Guidelines

You must have administrator privileges to issue this command.

If you want to disable the entire health-check facility, use the `disable health-check` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables health checks for the server group named `svrgroup1`.

```
disable health-check server-group-name "srvgroup1"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable server

```
disable server
  [(index <index number>) |
   (ipaddress <IP address> {port <port number>})]
```

Description

Disables a server, forcing the server to be down.

Syntax Description

index number	The unique index number of the server to be disabled.
IP address	The IP address of the server(s) to be disabled. The IP address plus the port number uniquely identify a server.
port number	The port number of the server to be disabled. The port number plus the IP address uniquely identify a server.

Default

All servers are enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You can identify a server to be disabled either by its index number or by its IP address and port number. If you specify only the IP address, this command disables all servers with that IP address (and any port number).

Disabling a server forces it to be down (for example, for maintenance). While the server is disabled, it is not used by the Px-series application switch. A disabled server is indicated as "forced down" (FDOWN) in the output from the `show health-check` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

This example disables all servers with IP address 5.5.5.5:

```
* station2:16 # disable server ip 5.5.5.5
* station2:17 # show health server-group name sg20000
Healthcheck is currently enabled
default interval 30 sec timeout 5 sec retry interval 10 sec arp interval 5 min
default fail after 2, restore after 2
12600/12823 ping rx/tx
16451/16622 DNS query rx/tx
     5 DOWN  94 UP      4 *UP      2 *DOWN    4 FDOWN
flags: E - check Enabled, D - check Disabled, R - mac is resolved
ra - restore after,  fa - fail after, left - secs till next check
index      IP         port    proto   state   check   left  run   ra    fa    ups   flg
           5.5.5.5            ICMP    FDOWN   IDLE    24    -1    2     2     0     E
20000      5.5.5.5    90      ICMP    FDOWN   IDLE    18    0     2     2     0     E
```

```
20001       5.5.5.5     91       ICMP     FDOWN    IDLE     14    0     2     2     0     E
20002       5.5.5.5     92       ICMP     FDOWN    IDLE     15    0     2     2     0     E
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

disable server slow-start

```
disable server slow-start
```

Description

Disables server slow start.

Syntax Description

This command has no parameters or options.

Default

Slow start is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

In order not to overload a server that has just come up, *server slow start* restricts the number of connections that the server can process. Slow start is performed when health checks bring a server back online, or when a server is enabled, if health checking is disabled for that server's server group.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command disables server slow start.

```
disable server slow-start
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable health-check

```
enable health-check
```

Description

Enables the health-check facility.

Syntax Description

This command has no parameters or options.

Default

The health-check facility is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

When the health-check facility is enabled, health checks are performed on every server group except those for which health checks have been explicitly disabled by the `disable health-check server-group-name` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables the health-check facility.

```
enable health-check
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable health-check server-group-name

```
enable health-check server-group-name <name string>
```

Description

Enables health checks for a specified server group.

Syntax Description

name string	The name of the server group for which health checks are to be enabled.

Default

Health checks are enabled for all server groups by default.

Usage Guidelines

You must have administrator privileges to issue this command.

Health checks are performed only if the health-check facility itself is enabled. This facility is enabled by default. It can be disabled with the `disable health-check` command and re-enabled with the `enable health-check` command.

You use this command to re-enable health checks for a server group after disabling them with the `disable health-check server-group-name` command.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables health checks for the server group named `svrgroup1`.

```
enable health-check server-group-name "srvgroup1"
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable server

```
enable server
  [(index <index number>) |
   (ipaddress <IP address> {port <port number>})]
```

Description

Re-enables a server that has been disabled.

Syntax Description

index number	The unique index number of the server to be enabled.
IP address	The IP address of the server(s) to be enabled. The IP address plus the port number uniquely identify a server.
port number	The port number of the server to be enabled. The port number plus the IP address uniquely identify a server.

Default

All servers are enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

You can identify a server to be enabled either by its index number or by its IP address and port number. If you specify only the IP address, this command enables all disabled servers with that IP address (and any port number).

Enabling a server brings the server back into normal use by the Px-series application switch.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables the server with index number 1:

```
enable server index 1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

enable server slow-start

```
enable server slow-start
```

Description

Enables server slow start.

Syntax Description

This command has no parameters or options.

Default

Slow start is enabled by default.

Usage Guidelines

You must have administrator privileges to issue this command.

In order not to overload a server that has just come up, *server slow start* restricts the number of connections that the server can process. Slow start is performed when health checks bring a server back online, or when a server is enabled, if health checking is disabled for that server's server group.

You must use the `build` command to commit the configuration changes made by this command.

Example

The following command enables server slow start.

```
enable server slow-start
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

7 Commands for Monitoring the Switch

This chapter describes the following commands:

- Commands that show traffic statistics
- Commands that show configuration details
- Commands for managing and troubleshooting operation

pxtop

```
pxtop {vip <IP address> {port <port number>}}
```

Description

Displays real-time information about connections to virtual services.

Syntax Description

IP address	VIP for the service(s) of interest
port number	Port number for the service of interest

Default

N/A.

Usage Guidelines

The screen is updated dynamically to display an overview of the current, peak, and total connections to virtual services.

Parameters to this command allow you to limit the display to information about services that use the specified IP address or the specified IP address and port.

Example

The following command displays information about connections to all services:

```
pxtop
```

This command produces output like the following:

```
                                        C o n n e c t i o n s       Delta
Service                                 Current    Peak       Total      Total
-----------------------------------    ---------- ---------- ---------- ----------
10.6.2.20:80           tcp                1009       1009       1009       1009
10.6.2.100:8080        tcp
   Domain: default
      default                           0          0          0          0
   Domain: 10.65.12.100
      default                           0          0          0          0
      *.gif                             0          1          10         0
10.6.2.101:900         tcp
   Domain: default
      default                           0          0          0          0
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show accounts

```
show accounts
```

Description

Displays user account information for all users on the switch.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You must have administrator privileges to issue this command.

This command displays the following information in a tabular format:

- User Name—The name of the user. This list displays all of the users who have access to the switch.
- Access—The SNMP community strings. This may be listed as R/W for read/write or RO for read only.
- Login OK—The number of logins that are okay.
- Failed—The number of failed logins.

Example

This example displays user account information on the switch:

```
SummitPx1:4 # show accounts
      User Name     Access   LoginOK  Failed   Session
---------------     ------   -------  ------   -------
      admin         R/W      44       1
      user          RO       0        0
      jones         R/W      3        0
      sales         RO       0        0
      smith         R/W      0        0
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show banner

```
show banner
```

Description

Displays the user-configured banner string.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

Use this command to view the banner that was set with the `configure banner` command. This banner is displayed before the login prompt.

Example

The following command displays the switch banner:

```
show banner
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show build

```
show build
```

Description

Displays the configuration that will become effective when the `build` command is issued.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You can use this command after making changes to the configuration and before issuing the `build` command. The output shows the configuration as set by commands that change configuration that have not yet been confirmed by the `build` command.

After you issue the `build` command, the output from the `show build` command will be identical to the output from the `show configuration` command.

Example

This example illustrates the output from the `show build` command

```
* SummitPx1:8 # show build
#####################################################################
# SummitPx1 Configuration
# Software Version 1.2.0b4 (fpga 606rd)
#####################################################################

#-----------------------------------------------------------
# vrrp configuration
#-----------------------------------------------------------
disable vrrp
config vrrp serial-failover interval 500
disable vrrp serial-failover
disable vrrp auto-sync

#-----------------------------------------------------------
# servers
#-----------------------------------------------------------
config server default max-connections 10000
config server default weight 1
config server slow-start initial-connections 5
config server slow-start interval 5
disable server slow-start
config server index 1 ip 10.10.13.1 port 80
config server index 2 ip 10.10.13.2 port 80
...
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show configuration

```
show configuration [primary | secondary]
```

Description

Shows the currently active configuration, which may be different from the saved configurations.

Syntax Description

primary	Shows the primary configuration saved in flash memory.
secondary	Shows the secondary configuration saved in flash memory.

Default

N/A.

Usage Guidelines

If the output scrolls off the top of the screen, you can use the `enable clipaging` command to pause the display when the output fills the screen.

Example

This example illustrates the output from the `show configuration` command:

```
* SummitPx1:25 # sh config
#####################################################################
# SummitPx1 Configuration
# Software Version 1.1.0b8 (FPGA:511 by build 03/21/02 01:09:31)
#####################################################################
#-------------------------------------------------------------
# servers
#-------------------------------------------------------------
config server default max-connections 10000
config server default weight 1
config server slow-start initial-connections 5
config server slow-start interval 5
disable server slow-start
config server index 1 ip 10.6.8.50 port 8080
config server index 2 ip 10.6.8.51 port 8080
config server index 40 ip 10.6.8.52 port 80
config server index 41 ip 10.6.8.53 port 80
#-------------------------------------------------------------
# server-groups
#-------------------------------------------------------------
config server-group name web1_layer4 policy rr server-last-resort
    index 1
config server-group name web1_layer4 add-server index 1 - 2
config server-group name web2_layer7 policy rr server-last-resort
    index 40
config server-group name web2_layer7 add-server index 40 - 41
#-------------------------------------------------------------
# service-table
#-------------------------------------------------------------
```

```
config service vip 10.6.36.21 port 2000 protocol tcp l4 server-group-name web1_layer4

config service vip 10.6.36.22 port 3000 protocol tcp l7 class http
config domain name default
config pattern-rule "default" server-group-name web3_layer7
config domain name mydomain.com
config pattern-rule "default" server-group-name web2_layer7
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show connections details

```
show connections {vip <IP address> {port <port number>}} details
```

Description

Displays a list of the open connection.

Syntax Description

IP address	VIP for the service of interest
port number	port number for the service of interest

Default

N/A.

Usage Guidelines

Parameters to this command allow you to limit the display to connections to the specified IP address or the specified IP address and port.

Example

This example displays all open connections.

```
SummitPx1:35 # sh conn details
Flags:  4 - Layer 4,  7 - Layer 7,  T - TCP,  U - UDP
Age is in seconds
State:  ESTAB - ESTABLISHED,  CLSWT - CLOSE_WAIT

Client IP       Virtual IP      Proxy IP        Server IP
and Port        and Port        and Port        and Port        Flags   Age  State
--------------  --------------  --------------  --------------  -----   ---  -----
10.5.9.16       10.6.2.100      10.6.2.15       10.6.3.48       7T      3    CLSWT
43935           8080            55142           80

10.5.9.16       10.6.2.100      10.6.2.15       10.6.3.49       7T      3    CLSWT
43939           8080            55143           80

10.5.9.16       10.6.2.100      10.6.2.15       10.6.3.50       7T      3    CLSWT
43940           8080            55144           80

10.5.9.16       10.6.2.100      10.6.2.15       10.6.3.51       7T      3    CLSWT
43936           8080            55145           80

10.5.9.16       10.6.2.100      10.6.2.15       10.6.3.52       7T      3    CLSWT
43941           8080            55146           80
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show connections summary

```
show connections summary
```

Description

Displays the current and total number of connections processed by the application switch.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows a summary of the connections to the switch

```
SummitPx1:32 # sh conn summ

Open   layer 4 connections                :          0
Total layer 4 connections processed       :          0
Peak   layer 4 connections                :          0

Open   layer 7 connections                :          2
Total layer 7 connections processed       :          0
Peak   layer 7 connections                :          3

Note: Layer 7 counters might be off by 2 or 3 due to self-audit.
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show cookie

```
show cookie
```

Description

Displays the configured status of cookie processing.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command shows the status of cookie processing.

```
show cookie
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show critical-resources

```
show critical-resources
```

Description

Displays information about the configuration of critical resources.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

In full-NAT mode (full Network Address Translation), the Px-series application switch must have sufficient proxy IP addresses configured to allow millions of connections going through the switch. This commands shows how many resources are configured, used, and available.

Example

This example shows the configuration of critical resources.

```
station2:6 # show critical-resources

   nat-mode full is configured.

   Proxy-ips configured           :                  3
   Proxy-ip connection capacity   :             193536
   Proxy-ip connection usage      :                  0
   Layer 4 connection capacity    :              64504
   Layer 4 connection usage       :                  0
   Layer 7 connection capacity    :             129016
   Layer 7 connection usage       :                  0
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show default-gateway

```
show default-gateway
```

Description

Displays the default gateway IP address for the Gigabit Ethernet interface.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows information about the default gateway.

```
SummitPx1:36 # sh default-gateway
Default Gateway 1: 10.6.12.1
Default Gateway 2: Not configured.
Active Gateway    : 10.6.12.1   Mac=[00:e0:2b:df:0b:00] Errs=0, Switches=0
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show dns-client

```
show dns-client
```

Description

Displays the DNS configuration.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example displays the DNS configuration:

```
SummitPx1:5 # show dns-client
Default domain: ExtremeNetworks.com
Number of name servers: 1
Name Server 1:  10.0.0.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show errors

```
show errors
```

Description

Displays any system-level errors that have been detected.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command shows system-level errors:

```
show errors
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show gateway-mode

```
show gateway-mode
```

Description

Displays information about gateway-mode IP addresses.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows information about gateway-mode IP addresses.

```
station2:69 # show gateway-mode
gateway-mode is currently disabled

        Gateway-mode
Vrid    Ip Address      Vlan
------------------------------
0       10.6.2.200      3757
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show gateway-mode configuration

```
show gateway-mode configuration
```

Description

Displays current gateway-mode configuration.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows gateway-mode configuration.

```
station2:70 # show gateway-mode configuration
#-------------------------------------------------------------
# gateway-mode configuration
#-------------------------------------------------------------
disable gateway-mode
config gateway-mode add ipaddress 10.6.12.200
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show gslb

```
show gslb
```

Description

Shows activity of the GlobalPx Content Director agent.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

This command shows whether the GlobalPx Content Director agent is enabled. If the agent is enabled, the command also shows:

- The IP address and port on which the agent is listening
- The IP address of the last scheduler (if any) to contact the agent and the time at which the contact occurred
- The IP addresses of all schedulers (if any) that have contacted the agent
- The current load

For more information about the agent, see the *GlobalPx Content Director Installation and User Guide*.

Example

This example shows the activities of the GlobalPx Content Director agent after the agent was started and before any scheduler contacted the agent.

```
station2:5 # show gslb
gslb-agent is enabled
listening on IP address 10.10.12.10:2103
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show gslb configuration

```
show gslb configuration
```

Description

Shows the configuration of the GlobalPx Content Director agent.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

The output from this command shows any `enable gslb`, `disable gslb`, or `configure gslb` that are in effect.

For more information about the agent, see the *GlobalPx Content Director Installation and User Guide*.

Example

This example shows the configuration of the agent.

```
SummitPx1:6 # show gslb configuration
#-----------------------------------------------------------------
# gslb configuration
#-----------------------------------------------------------------
enable gslb
config gslb ip 10.10.45.12 service yosemite.cnd.extremenetworks.com
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show health-check

```
show health-check
  {(server [(index <index number>) | (ipaddress <IP address>)]) |
   (server-group name <name string>)}
  {details}
```

Description

Shows detailed information about health checks

Syntax Description

index number	The unique index number of a server for which to display health-check information.
IP address	The IP address of a server for which to display health-check information. The IP address plus the port number uniquely identify a server. If more than one server has the same IP address, this command show details about them all.
name string	The name of the server group for which to display health-check information.

Default

N/A.

Usage Guidelines

Parameters to this command allow you to see details for specified servers only. You can request details for:

- The server with the specified index.
- All servers with the specified IP address (and any port)
- All servers in the specified server group.

Example

This example shows health-check information for all servers. (The table with detailed information for each server is too wide to fit in a single line of text. Note that the columns labeled `arp` and `lasterr` appear on a separate line, indented.)

```
SummitPx1:16 # sh hea det
Healthcheck is currently enabled
default interval 30 sec, retry interval 10 sec, arp interval 5 min
default fail after 2, restore after 2
1732/3038 ping rx/tx
     1 checks active
     4 DOWN     4 UP       2 *UP      3 *DOWN
flags: E - check Enabled, D - check Disabled, R - mac is resolved
ra - restore after,  fa - fail after, left - secs till next check
index delta IP       port proto state check  int rty left run ra fa fd flg chng  ups
           arp      lasterr
       253   1.1.1.1      ICMP  DOWN  IDLE    30  10   4  -2  2  2  -1 RE  14747 0
           14803    S_errno_ETIMEDOUT
```

```
100    478   1.1.1.1  90  ICMP *DOWN   IDLE    30  10   7   0  2  2  -1 RE  14747 0
           14803
101   1738   1.1.1.1  91  ICMP *DOWN   IDLE    30  10  28   0  2  2  -1 RE  14747 0
           14803
      1380  10.6.2.1      ICMP  DOWN   PINGING 30  10  22  -2  2  2  -1 E   14747 0
           14803   S_errno_ETIMEDOUT
102   1926  10.6.2.1 900  ICMP *DOWN   IDLE    30  10  31   0  2  2  -1 E   14747 0
           14803
       677  10.6.3.4      ICMP  UP     IDLE    30  10  10   2  2  2  -1 RE   2366 3
           14803   S_errno_ETIMEDOUT
1     2158  10.6.3.4  80  ICMP *UP     IDLE    30  10  35   0  2  2  -1 RE   2366 0
           14803
      1742  10.6.3.5      ICMP  UP     IDLE    30  10  28   2  2  2  -1 RE   2322 3
           14803   S_errno_ETIMEDOUT
2      478  10.6.3.5  80  ICMP *UP     IDLE    30  10   6   0  2  2  -1 RE   2322 0
           14803
       173  10.6.3.6      ICMP  UP     IDLE    30  10   1   2  2  2  -1 RE   2360 3
           14803   S_errno_ETIMEDOUT
```

This example shows details about the server with index 2.

```
SummitPx1:17 # sh health-check server index 2 details
Healthcheck is currently enabled
default interval 30 sec, retry interval 10 sec, arp interval 5 min
default fail after 2, restore after 2
1738/3045 ping rx/tx
    4 DOWN     4 UP     2 *UP     3 *DOWN
flags: E - check Enabled, D - check Disabled, R - mac is resolved
ra - restore after,  fa - fail after, left - secs till next check
index delta IP       port proto state check  int rty left run ra fa fd flg chng  ups
           arp      lasterr
       173  10.6.3.5      ICMP  UP     IDLE    30  10   2   2  2  2  -1 RE   2349 3
           14829   S_errno_ETIMEDOUT
2     1729  10.6.3.5  80  ICMP *UP     IDLE    30  10  28   0  2  2  -1 RE   2349 0
           14829
```

This example shows details about the servers in the server group named sg1.

```
SummitPx1:19 # sh health-check server-group name "sg1" details
Healthcheck is currently enabled
default interval 30 sec, retry interval 10 sec, arp interval 5 min
default fail after 2, restore after 2
1755/3064 ping rx/tx
    1 checks active
    4 DOWN     4 UP     2 *UP     3 *DOWN
flags: E - check Enabled, D - check Disabled, R - mac is resolved
ra - restore after,  fa - fail after, left - secs till next check
index delta IP       port proto state check  int rty left run ra fa fd flg chng  ups
           arp      lasterr
      1260  10.6.3.4      ICMP  UP     IDLE    30  10  20   2  2  2  -1 RE   2460 3
           14896   S_errno_ETIMEDOUT
1     1601  10.6.3.4  80  ICMP *UP     IDLE    30  10  26   0  2  2  -1 RE   2460 0
           14896
       885  10.6.3.5      ICMP  UP     IDLE    30  10  14   2  2  2  -1 RE   2416 3
           14896   S_errno_ETIMEDOUT
2     1421  10.6.3.5  80  ICMP *UP     IDLE    30  10  23   0  2  2  -1 RE   2416 0
           14896
```

show health-check configuration

```
show health-check configuration
```

Description

Shows whether health checks are enabled and the current value for global health-check properties.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the health-check configuration.

```
SummitPx1:11 # sh health-check configuration
#-------------------------------------------------------------
# global healthcheck configuration
#-------------------------------------------------------------
enable health-check
config health-check interval 30
config health-check retry-interval 10
config health-check fail-after 2
config health-check restore-after 2
config health-check arp-interval 5
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show health-check down

```
show health-check down
```

Description

Shows the servers that failed health check and that are marked down.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows which servers are down.

```
SummitPx1:15 # sh health-check down
Healthcheck is currently enabled
default interval 30 sec, retry interval 10 sec, arp interval 5 min
default fail after 2, restore after 2
1722/3026 ping rx/tx
    1 checks active
    4 DOWN     4 UP     2 *UP     3 *DOWN
flags: E - check Enabled, D - check Disabled, R - mac is resolved
ra - restore after,  fa - fail after, left - secs till next check
index    IP          port  proto    state    check    left  run   ra    fa    ups   flg
         1.1.1.1           ICMP     DOWN     IDLE     1     -2    2     2     0     RE
100      1.1.1.1     90    ICMP     *DOWN    IDLE     23    0     2     2     0     RE
101      1.1.1.1     91    ICMP     *DOWN    IDLE     33    0     2     2     0     RE
         10.6.2.1          ICMP     DOWN     PINGING  16    -2    2     2     0     E
102      10.6.2.1    900   ICMP     *DOWN    IDLE     3     0     2     2     0     E
68       10.6.3.6    53    HTTP     DOWN     IDLE     0     1     2     2     0     RE
69       10.6.3.7    53    HTTP     DOWN     IDLE     0     1     2     2     0     RE
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show health-check summary

```
show health-check summary
```

Description

Displays a brief summary showing whether health check is enabled, the values for global health-check properties, and how many servers and applications (on specific ports) are up and down.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows a health-check summary.

```
SummitPx1:20 # sh hea summ
Healthcheck is currently enabled
default interval 30 sec, retry interval 10 sec, arp interval 5 min
default fail after 2, restore after 2
1762/3073 ping rx/tx
      2 checks active
      4 DOWN     4 UP    2 *UP    3 *DOWN
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show icmp

```
show icmp
```

Description

Shows how many ICMP-type packets have been received.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the number of ICMP packets.

```
station2:8 # show icmp

Total Received ICMP packets:                          23337
ICMP Rx: ICMP checksum error count:                   0
ICMP Echo requests matching VIP, PIP and next-hop:    4
ICMP Echo requests for CPU:                           7
Tx ICMP response count for VIP, PIP and next-hop:     4
ICMP response transmit err count:                     0
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show iparp

```
show iparp
  {<IP address> | <hostname>}
```

Description

Displays the IP Address Resolution Protocol (ARP) table.

Syntax Description

IP address	An IP address to use for filtering the display. Only entries with the specified IP address are displayed.
hostname	A host name to use for filtering the display. Only entries with the specified host name are displayed.

Default

Show all entries.

Usage Guidelines

Parameter to this command allow you to filter the display by IP address or host name.

Displays the IP ARP table, including:

- IP address
- MAC address
- Aging timer value
- VLAN name, VLAN ID and port number
- Flags

Example

This example displays the entire IP ARP table:

```
station2:24 # show iparp

Total Received ARP requests:                          491
ARP requests matching VIP, PIP and next-hop:            6
ARP requests matching CPU IP address:                   0
Tx ARP response count for VIP, PIP and next-hop:        6
ARP response transmit err count:                        0

LINK LEVEL ARP TABLE
destination         gateway          flags      Refcnt     Use        Interface
-------------------------------------------------------------------------------
10.6.2.1         00:01:30:a2:18:0    405        1          0          fei0
10.6.2.150       00:a0:cc:5a:7f:c0   405        0          816        fei0
10.6.12.1        00:e0:2b:df:0b:0    405        1          487        gig0
-------------------------------------------------------------------------------
```

```
show iparp
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show iproute

```
show iproute
```

Description

Displays the contents of the IP routing table.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example displays detailed information about all IP routing:

```
station2:157 # sh iproute


ROUTE NET TABLE
destination         gateway          flags      Refcnt     Use        Interface
-------------------------------------------------------------------------------
0.0.0.0             10.6.12.1        3          3          617782     gig0
10.6.2.0            10.6.2.12        101        0          0          fei0
10.6.12.0           10.6.12.10       101        0          0          gig0
-------------------------------------------------------------------------------

ROUTE HOST TABLE
destination         gateway          flags      Refcnt     Use        Interface
-------------------------------------------------------------------------------
10.255.129.4        10.6.2.1         7          0          0          fei0
127.0.0.1           127.0.0.1        5          1          0          lo0
-------------------------------------------------------------------------------
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show log

```
show log {fatal | errors | warning | info}
```

Description

Displays the current snapshot of the switch's internal log.

Syntax Description

fatal	Display fatal messages only.
errors	Display messages at the error level and higher (non-fatal and fatal error messages)
warning	Display messages at the warning level and higher (warnings, non-fatal error messages, and fatal error messages)
info	Display messages at the informational level and higher (non-fatal error messages, and fatal error messages)

Default

N/A.

Usage Guidelines

The switch maintains 200 message in its internal log. You use the `show log` command to display the these messages. The option specifies the severity level of the messages to be displayed. If no option is specified, all messages in the internal log are shown.

Example

The following command displays error messages from the log:

```
show log errors
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show log configuration

```
show log configuration
```

Description

Shows the configuration for the logging facility.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command displays logging configuration:

```
SummitPx1:10 # show log configuration
config log display warning
enable syslog
config syslog ip 10.10.10.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show nat-mode configuration

```
show nat-mode configuration
```

Description

Displays the currently configured NAT mode.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command shows the NAT mode.

```
show nat-mode configuration
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show port

```
show port [gigabit | mgmt]
```

Description

Displays summary information about the specified port.

Syntax Description

gigabit	Specifies the Gigabit Ethernet network interface port.
mgmt	Specifies the front panel 10/100 management port.

Default

N/A.

Usage Guidelines

None.

Example

This example shows summary information for the Gigabit port.

```
SummitPx1:39 # sh port gig
Port Summary, port 0:
Port State:    enabled
Link is UP
Auto negotiation is done
GPCS mode -- Full duplex mode
Auto negotiation is enabled
Full duplex enabled
Packets Received (RX) : total packets received
705327 Unicast, 11 Broadcast, 6751 Multicast, 0 Errors
Packets Transmitted (TX) : total packets transmitted
818772 Unicast, 4539 Broadcast, 0 Multicast, 0 Errors
```

This example shows summary information for the management port.

```
SummitPx1:43 # sh port mgmt
Management Port Summary:
Link is UP
Auto negotiation is done
Operating in 100 Base-T Full duplex mode
Auto negotiation is enabled
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show port configuration

```
show port [gigabit | mgmt] configuration
```

Description

Displays the configuration of the specified port.

Syntax Description

gigabit	Specifies the Gigabit Ethernet network interface port.
mgmt	Specifies the front panel 10/100 management port.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the configuration of the Gigabit port.

```
SummitPx1:40 # sh port gig conf
config system-ip 10.6.2.10 / 24
```

This example shows the configuration for of the management port.

```
SummitPx1:45 # sh port mgmt configuration
config mgmt ipaddress 10.6.2.12 / 24
config mgmt iproute dest-ip 10.10.10.4 gateway 10.6.2.1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show port details

```
show port [gigabit | mgmt] details
```

Description

Displays packet-level counters and current status of the specified port.

Syntax Description

gigabit	Specifies the Gigabit Ethernet network interface port.
mgmt	Specifies the front panel 10/100 management port.

Default

N/A.

Usage Guidelines

None.

Example

This example shows details about the Gigabit port.

```
SummitPx1:41 # sh port gig det
Port Details, port 0:
Port State:            enabled
Link error counter:  0
Link is UP
Auto negotiation is done
GPCS mode -- Full duplex mode
Auto negotiation is enabled
Full duplex enabled
Linkpartner is 1000 base-T full duplex capable
Linkpartner is NOT 1000 base-T half duplex capable

TX Unicast:                 818772
TX Broadcast:                 4539
TX Multicast:                    0
TX Errors:                       0

RX Unicast:                 705328
RX Broadcast:                   11
RX Multicast:                 6754
RX Errors:                       0

RX Short:                        0
RX Short/CRC:                    0
RX Long:                         0
RX Long/CRC:                     0
```

This example shows details about the management port.

```
SummitPx1:46 # sh port mgmt details
Management Port Details:
Link is UP
Auto negotiation is done
Operating in 100 Base-T Full duplex mode
Auto negotiation is enabled
Link error counter:  0
Link partner is 100 base-T full duplex capable
Link partner is 100 base-T half duplex capable
Link partner is 10 base-T full duplex capable
Link partner is 10 base-T half duplex capable
Tx good frames:               12948
Tx MAXCOL errors:‘                0
Tx LATECOL errors:                0
Tx underrun errors:               0
Tx lost CRS errors:               0
Tx deferred:                      0
Tx single collisions:             0
Tx multiple collisions:           0
Tx total collisions:              0
Rx good frames:               12288
Rx CRC errors:                    0
Rx allignment errors:             0
Rx resource errors:               0
Rx overrun errors:                0
Rx collision detect errors:       0
Rx short frame errors:            0
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show port gigabit utilization

```
show port gigabit utilization
```

Description

Displays real-time port utilization information for the Gigabit Ethernet network interface port.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

The screen is updated dynamically to display packets received and bandwidth. Use the [Spacebar] to toggle between packet, byte, and bandwidth utilization information.

This status information may be useful for your technical support representative if you have a network problem.

Example

The following command displays utilization statistics for the Gigabit port.

```
show port gigabit utilization
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show proxy-ip configuration

```
show proxy-ip configuration
```

Description

Displays the currently configured proxy IP addresses.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command shows the proxy IP addresses.

```
show proxy-ip configuration
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show self-audit

```
show self-audit
```

Description

Shows whether internal self-audit is enabled.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

Internal self-audit is the internal hardware-check mechanism.

Example

This example e shows whether internal self-audit is enabled.

```
station2:68 # show self-audit
Self Audit state: Enabled.
Self Audit success/failure counts: 4391/0
Self Audit state transition counts:
State transition           count
-----------------------------
Client Send SYN             4392
Client Wait SYN/ACK        4392
Client Send ACK             4392
Client Send GET             4392
Client Wait GET/ACK        4392
Server Wait SYN             4392
Server Send SYN/ACK        4391
Server Wait ACK             4391
Server Wait GET             4391
Client Send RST             4391
Server Send RST             4391
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server configuration

```
show server
  [(index <index number> {- <index number>}) |
   (ipaddress <IP address> {- <IP address>} port <port number>)]
  configuration
```

Description

Displays server configuration.

Syntax Description

index number	The unique index number of a server to be displayed.
IP address	The IP address of a server to be displayed. The IP address plus the port number uniquely identify a server.
port number	The port number of the servers to be displayed. The port number plus the IP address uniquely identify a server.

Default

N/A.

Usage Guidelines

Parameter to this command allow you to see configurations for specified servers only.

You can identify a server either by its index number or by its IP address and port number. This command allows you to specify a number of servers with consecutive index numbers or a number of servers with consecutive IP addresses, all of which use the same port.

Example

This example displays the configuration for the service with index number 3.

```
SummitPx1:47 # show server index 3 conf
config server index 3 ip 10.6.3.196 port 80
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server details

```
show server
  [(index <index number> {- <index number>}) |
   (ipaddress <IP address> {- <IP address>})] details
```

Description

Displays details about servers including the current and maximum number of connections and status (up or down).

Syntax Description

index number	The unique index number of a server to be displayed.
IP address	The IP address of a server to be displayed. The IP address plus the port number uniquely identify a server. If more than one server has the same IP address, this command show details about them all.

Default

N/A.

Usage Guidelines

Parameters to this command allow you to see details for specified servers only.

You can identify a server either by its index number or by its IP address. This command allows you to specify a number of servers with consecutive index numbers or a number of servers with consecutive IP addresses.

When you identify servers by IP address, you see details about all servers that use that IP address (and any port).

Example

This example shows details about all servers.

```
SummitPx1:3 # sh server details
flags:  E - check Enabled, D - down, U - Up, R - mac is resolved,
        N - mac is not resolved, F - forced down
run - '>' than or '<' than 0, number of consecutive passed or failed respectively
ra - restore after,  fa - fail after, left - secs till next check
     index   IP            port  proto   flg   curr-conns max-connections  run   ra    fa

             10.6.2.150          ICMP    URE                              2     2     2
     12      10.6.2.150    80    HTTP    URE     5       10000            2     2     2
             10.6.3.194          ICMP    URE                              2     2     2
     1       10.6.3.194    80    HTTP    URE     5       10000            2     2     2
             10.6.3.195          ICMP    URE                              2     2     2
     2       10.6.3.195    80    HTTP    URE     5       10000            2     2     2
             10.6.3.196          ICMP    URE                              2     2     2
     3       10.6.3.196    80    HTTP    URE     5       10000            2     2     2
             10.6.3.197          ICMP    URE                              2     2     2
     4       10.6.3.197    80    HTTP    URE     5       10000            2     2     2
```

```
            10.6.3.198          ICMP    URE                             2     2     2
     5      10.6.3.198    80    HTTP    URE     5       10000           2     2     2
            10.6.3.199          ICMP    URE                             2     2     2
     6      10.6.3.199    80    HTTP    URE     5       10000           2     2     2
            10.6.3.200          ICMP    URE                             2     2     2
     7      10.6.3.200    80    HTTP    URE     5       10000           2     2     2
            10.6.3.201          ICMP    URE                             2     2     2
     8      10.6.3.201    80    HTTP    URE     5       10000           2     2     2
```

This example shows details about the server with index number 3.

```
SummitPx1:5 # sh server index 3 det
flags:  E - check Enabled, D - down, U - Up, R - mac is resolved,
        N - mac is not resolved, F - forced down
run - '>' than or '<' than 0, number of consecutive passed or failed respectively
ra - restore after,  fa - fail after, left - secs till next check
     index   IP            port  proto   flg   curr-conns max-connections  run   ra    fa

     3       10.6.3.196    80    HTTP    URE     5       10000           2     2     2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server down

```
show server down
```

Description

Shows which servers are failing health check

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows which servers are down.

```
SummitPx1:20 # show server down
Healthcheck is currently enabled
default interval 30 sec, retry interval 10 sec, arp interval 5 min
default fail after 2, restore after 2
2165/2180 ping rx/tx
    1 DOWN  124 UP
flags: E - check Enabled, D - check Disabled, R - mac is resolved
ra - restore after,  fa - fail after, left - secs till next check
index      IP         port    proto   state   check   left    run  ra   fa   ups  flg
           1.1.1.1            none    DOWN    IDLE    16      1    2    2    0    RE
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server summary

```
show server summary
```

Description

Shows the number of configured servers, how many are up, and how many are down.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the status of servers.

```
SummitPx1:22 # sh server summ
Number of configured servers: 64,       1 DOWN   63 UP
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server-group

```
show server-group
```

Description

Displays detailed information about all server groups, listing their servers, the current and maximum connections for each, and up/down status.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

To see details about a single server group, use the `show server-group details` command.

Example

This example shows details about all servers.

```
SummitPx1:25 # show server-group
server-group sg1:
flags:  E - check Enabled, D - down, U - Up, R - mac is resolved,
        N - mac is not resolved, F - forced down
     index   IP            port  proto   flg   curr-conns  max-connections

             10.6.2.150           ICMP    URE
     12      10.6.2.150    80     HTTP    URE         0        10000
             10.6.3.194           ICMP    URE
     1       10.6.3.194    80     HTTP    URE         0        10000
             10.6.3.195           ICMP    URE
     2       10.6.3.195    80     HTTP    URE         0        10000
             10.6.3.196           ICMP    URE

server-group sg2:
flags:  E - check Enabled, D - down, U - Up, R - mac is resolved,
        N - mac is not resolved, F - forced down
     index   IP            port  proto   flg   curr-conns  max-connections

             10.6.1.205           ICMP    URE
     20      10.6.1.205    80     HTTP    URE         0        10000
             10.6.1.206           ICMP    URE
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server-group configuration

```
show server-group {name <name string>} configuration
```

Description

Displays configuration for server groups.

Syntax Description

name string	The name of the server group for which configuration should be displayed.

Default

N/A.

Usage Guidelines

The parameter to this command allows you to display configuration for a single server group.

Example

This example displays the configuration for the server group named `sg1`.

```
SummitPx1:25 # sh server-group name sg1 conf
config server-group name sg1 policy rr
config server-group name sg1 add-server index 1 - 12
config server-group name sg1 add-server index 20 - 69
config server-group name sg1 health-check http
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server-group details

```
show server-group name <name string> details
```

Description

Displays detailed information about a server groups, listing its servers, current and maximum connections, and up/down status.

Syntax Description

name string	The name of the server group for which details should be displayed.

Default

N/A.

Usage Guidelines

To see details about all servers, use the `show server-group` command.

Example

This examples shows details for the server group named `sg1`.

```
SummitPx1:27 # sh server-group name sg1 det
flags:  E - check Enabled, D - down, U - Up, R - mac is resolved,
        N - mac is not resolved, F - forced down
run - '>' than or '<' than 0, number of consecutive passed or failed respectively
ra - restore after,  fa - fail after, left - secs till next check
     index   IP            port  proto   flg   curr-conns max-connections  run   ra    fa

             10.6.2.150          ICMP    URE                              2     2     2
     12      10.6.2.150    80    HTTP    URE     4        10000           2     2     2
             10.6.3.194          ICMP    URE                              2     2     2
     1       10.6.3.194    80    HTTP    URE     5        10000           2     2     2
             10.6.3.195          ICMP    URE                              2     2     2
     2       10.6.3.195    80    HTTP    URE     5        10000           2     2     2
             10.6.3.196          ICMP    URE                              2     2     2
     3       10.6.3.196    80    HTTP    URE     5        10000           2     2     2
             10.6.3.197          ICMP    URE                              2     2     2
     4       10.6.3.197    80    HTTP    URE     5        10000           2     2     2
             10.6.3.198          ICMP    URE                              2     2     2
     5       10.6.3.198    80    HTTP    URE     5        10000           2     2     2
             10.6.3.199          ICMP    URE                              2     2     2
     6       10.6.3.199    80    HTTP    URE     5        10000           2     2     2
             10.6.3.200          ICMP    URE                              2     2     2
     7       10.6.3.200    80    HTTP    URE     5        10000           2     2     2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show server-group summary

```
show server-group summary
```

Description

Displays the total number of server groups.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This examples shows a summary of the server groups.

```
SummitPx1:29 # sh server-group summ
Total number of server groups: 3
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show service configuration

```
show service
  {vip <IP address> {port <port> {protocol [tcp | udp]}}} configuration
```

Description

Displays configuration for services.

Syntax Description

IP address	VIP for the service of interest
port number	Port number for the service of interest
tcp	Specifies the TCP protocol.
udp	Specifies the UDP protocol.

Default

N/A.

Usage Guidelines

Parameters to this command allow you to limit the display to configuration for services that use the specified IP address, the specified IP address and port, or the specified IP address, port, and protocol.

Example

The following command shows the configuration for all services.

```
show service configuration
```

The following command shows the configuration for those services that use the IP address `10.6.2.20`.

```
show service vip 10.6.2.20 configuration
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show service details

```
show service {vip <IP address> {port <port number>}} details
```

Description

Displays detailed information about virtual service and their server groups and servers.

Syntax Description

IP address	VIP for the service of interest
port number	Port number for the service of interest

Default

N/A.

Usage Guidelines

This command can give dramatic insight into the distribution of traffic across a virtual service.

Parameters to this command allow you to limit the display to details about services that use the specified IP address or the specified IP address and port.

This command displays the statistics for virtual services and their server groups. For a layer 4 service, the command shows the server group. For a layer 7 service, the command shows the server group for each domain and pattern rule.

Information about a server group includes its policy, server of last resort, and current, total, and peak connections.

If you specify a single service, this command also includes information about the servers.

Example

This examples shows details about all services (one layer 4 service and two layer 7 services).

```
SummitPx1:45 # sh service details
Service 10.6.2.20 port 80 tcp service layer4
   Current connection:           303
   Total connections:           2171
   Peak concurrent:              311
   server-group sg1 policy rr
   server of last resort not specified

Service 10.6.2.100 port 8080 tcp service http layer7
   Domain: default
      Pattern-rule: default
      Current connection:          0
      Total connections:           0
      Peak concurrent:             0
      server-group sg2 policy wlc
      server of last resort not specified
```

```
   Domain: 10.6.2.100
      Pattern-rule: default
      Current connection:          0
      Total connections:           0
      Peak concurrent:             0
      server-group sg2 policy wlc
      server of last resort not specified

      Pattern-rule: *.gif
      Current connection:         50
      Total connections:         359
      Peak concurrent:           309
      server-group sg2 policy wlc
      server of last resort not specified


Service 10.6.2.101 port 900 tcp service http layer7
   Domain: default
      Pattern-rule: default
      Current connection:          0
      Total connections:           0
      Peak concurrent:             0
      server-group sg2 policy wlc
      server of last resort not specified
```

This example shows details about a single service.

```
SummitPx1:47 # sh service vip 10.6.2.100 port 8080 det
Service 10.6.2.100 port 8080 tcp service http layer7
   Domain: default
      Pattern-rule: default
      Current connection:          0
      Total connections:           0
      Peak concurrent:             0
      server-group sg2 policy wlc
      server of last resort not specified
flags:  E - check Enabled, D - down, U - Up, R - mac is resolved,
        N - mac is not resolved, F - forced down
run - '>' than or '<' than 0, number of consecutive passed or failed respectively
ra - restore after,  fa - fail after, left - secs till next check
      index   IP            port  proto   flg   curr-conns max-connections  run   ra    fa

              10.6.3.205          ICMP    URE                              2     2     2
      20      10.6.3.205    80    HTTP    URE      5       10000           2     2     2
              10.6.3.206          ICMP    URE                              2     2     2
      21      10.6.3.206    80    HTTP    URE      5       10000           2     2     2
              10.6.3.207          ICMP    URE                              2     2     2
      22      10.6.3.207    80    HTTP    URE      5       10000           2     2     2
              10.6.3.208          ICMP    URE                              2     2     2
      23      10.6.3.208    80    HTTP    URE      5       10000           2     2     2
              10.6.3.209          ICMP    URE                              2     2     2
      24      10.6.3.209    80    HTTP    URE      5       10000           2     2     2
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show service summary

```
show service summary
```

Description

Displays the number of configured layer 4 and layer 7 services.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows a summary of the services.

```
SummitPx1:48 # sh servi summ
Total number of L4 services = 1.
Total number of L7 services = 2.
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show session

```
show session
```

Description

Show which console, Telnet, and ssh sessions are active.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

You can issue the `clear session` command to force a session to be closed.

Example

This example displays the active sessions.

```
* station2:9 # show session
     #  Time since Login            User     Type        Auth       Location
================================================================================
*    0  00:05:01  0 days  0 yrs     admin    console     local      serial
     6  00:00:05  0 days  0 yrs     admin    telnet      local      10.10.10.16
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show snmp configuration

```
show snmp configuration
```

Description

Displays the current SNMP configuration.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the current SNMP configuration:

```
station2:125 # sh snmp configuration
#------------------------------------------------------------
# SNMP configuration
#------------------------------------------------------------
config snmp sysName "station2"
config snmp add trapreceiver 10.255.172.106 community "public" port 162
enable snmp access
enable snmp traps
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show sticky configuration

```
show sticky configuration
```

Description

Displays which persistence (stickiness) modes have been configured, and the configured timer values.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the configured stickiness modes.

```
SummitPx1:5 # show sticky configuration
#--------------------------------------------------------------
# stickiness configuration
#--------------------------------------------------------------
disable sticky L4 client-ip
disable sticky L7 client-ip
disable sticky L7 cookie-id
disable sticky L7 session-id
config sticky client-ip timeout 24:00:00
config sticky cookie-id timeout 00:00:30
config sticky session-id timeout 00:00:30
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show sticky table

```
show sticky table
  {L4 | (L7 {client-ip}) | (client-ip {<IP address>})}
```

Description

Shows entries in the persistence (stickiness) table.

Syntax Description

L4	Specifies layer 4 services.
L7	Specifies layer 7 services.
client-ip	Specifies client-IP persistence.
IP address	A particular client IP address.

Default

N/A.

Usage Guidelines

Parameters to this command allow you to limit the display to particular table entries:

Parameters	Displays Table Entries
(none)	All entries
L4	L4 entries
L7	L7 entries
L7 client-ip	L7 entries for client-IP persistence
client-ip	Entries for client-IP persistence (both L4 and L7)
client-ip <IP address>	Entries for client-IP persistence that match the specified IP address

NOTE

This command usually takes 30 to 60 seconds to complete. To interrupt this command, either any of the keys [q], [Return], or [Esc].

Example

This example shows the entire persistence table.

```
SummitPx1:5 # show sticky table
L4 Client-IP stickiness  enabled
L7 Client-IP stickiness  disabled
L7 Cookie-ID stickiness  disabled
L7 Session-ID stickiness disabled
Note:
      Values for cookie (CKE) and session (SSL) entries will not be displayed.

Count    Type:Value          Layer:VIP:VPORT        Server IP:PORT         Open Conn
-------------------------------------------------------------------------------
1        CIP:3.1.1.101       L4:3.2.20.11:80        3.4.20.11:80           1
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show switch

```
show switch
```

Description

Displays the current version of software loaded in primary and secondary flash, which image and configuration are currently selected, and other useful information.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example displays information about the switch.

```
station2:5 # sh switch
sysName:                        station2
sysType:                        px1
sysLocation:                    not yet configured
sysContact:                     support@extremenetworks.com, +1 800 998-2408
system IP:                      10.10.12.10
system netmask:                 255.255.255.0
active default gateway:         10.10.12.1
backup default gateway:         not yet configured
mgmt IP:                        10.10.2.12
mgmt netmask:                   255.255.255.0
system MAC (CPU-1000 MAC):      00:01:30:f0:40:00
mgmt MAC (10/100 MAC):          00:01:30:f0:40:02
SLB MAC (SLB-1000 MAC):         00:01:30:f0:40:01
Uptime:                         0 days 02Hr 42Min 47sec
Software version:               1.2.3b4
Software image selected:        primary
Software image booted:          primary
Primary Software version:       1.2.3b4    fpga 606rd
Secondary Software version:     1.1.1b63    FPGA: 564 by build 9/24/02 14:33:02
Configuration selected:         primary
Configuration booted:           primary
Fan status:                     all fans are operational
Self Audit status:              enabled.
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show system configuration

```
show system configuration
```

Description

Shows the current system configuration.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the system configuration.

```
SummitPx1:25 # sh system conf
config system-ip 64.1.1.10 / 24
config default-gateway 64.1.1.1
disable vlan
config mgmt ipaddress 10.10.10.10 / 24
enable syslog
config syslog ip 10.10.10.20
config nat-mode full
enable clipaging
disable port gigabit
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show system-ip configuration

```
show system-ip configuration
```

Description

Displays the IP address of the Gigabit Ethernet interface, along with its net mask.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command shows the IP address of the Gigabit Ethernet interface.

```
show system-ip configuration
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show tech-support

```
show tech-support
```

Description

Displays the output of various show commands to assist in monitoring and troubleshooting the switch.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

This command prints configuration and internal state registers on the console. This information can be useful for your technical support representative if you experience a problem.

While this command is executing, command-line interface paging is disabled.

Example

The following command displays the show command output on the switch:

```
show tech-support
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

show timeout configuration

```
show timeout configuration
```

Description

Displays the TCP/IP timer settings.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the timer settings

```
SummitPx1:36 # show timeout conf
#-----------------------------------------------------------------
# timeout timers configuration
#-----------------------------------------------------------------
config timeout established-connection 90
config timeout idle-connection 90
config timeout data-retransmit first 3
config timeout data-retransmit second 6
config timeout data-retransmit third 12
config timeout data-retransmit abort 12
config timeout syn-retransmit first 3
config timeout syn-retransmit second 5
config timeout syn-retransmit third 12
config timeout syn-retransmit abort 12
config timeout state-progression first 30
config timeout state-progression second 2
config timeout fin-seen 30
config timeout fin-acked 30
config timeout server-reset-delay 2
config timeout udp-flow-persistence 90
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show version

```
show version
```

Description

Shows version and serial numbers of the Px-series application switch components and the ExtremeWarePx software version.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command shows versions and serial numbers.

```
show version
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show vlan configuration

```
show vlan configuration
```

Description

Displays whether VLAN support is enabled or not.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

The following command shows the VLAN configuration.

```
show vlan configuration
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show vrrp auto-sync

```
show vrrp auto-sync
```

Description

Shows the configuration of VRRP automatic synchronization.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example shows the configuration of VRRP automatic synchronization of the backup switch:

```
SummitPx1:1 # show vrrp auto-sync
Auto-sync configuration info in the configurator:
Auto-sync:                  Enabled by VRRP
Master Partner IP:          10.5.6.3  Connected
Backup Partner IP:          Not Configured  N/A
-----------------
MD5 (local config):         ca3877d4-26f59373-e5cb599e-d5632fd5
MD5 (Master config):        ea621a6a-dd45e2a9-698f857c-2f73b62f
MD5 (Backup config):
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

show vrrp configuration

```
show vrrp {vrid [<VRID number> | all]} configuration
```

Description

Shows the current VRRP configuration.

Syntax Description

VRID number	The VRID of the VRRP class for which to show configuration; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

N/A.

Usage Guidelines

The `vrid` parameter to this command allows you to limit the display to the configuration of the specified VRRP class.

Example

This example shows the complete VRRP configuration.

```
SummitPx1:11 # show vrrp config
#-----------------------------------------------------------------
# vrrp configuration
#-----------------------------------------------------------------
enable vrrp
config vrrp serial-failover interval 500
disable vrrp serial-failover
config vrrp auto-sync master partner-ip 10.5.6.3
enable vrrp auto-sync

config vrrp add vrid 100
config vrrp vrid 100 priority 100
config vrrp vrid 100 dont-preempt
config vrrp vrid 100 advertisement-interval 1
```

This example shows the VRRP configuration for VRRP class 100:

```
SummitPx1:12 # show vrrp vrid 100 config
config vrrp add vrid 100
config vrrp vrid 100 priority 100
config vrrp vrid 100 dont-preempt
config vrrp vrid 100 advertisement-interval 1

#-----------------------------------
# Tracking configuration for vrid 100
#-----------------------------------
config vrrp vrid 102 add track-vrid 100
config vrrp vrid 103 add track-vrid 100
```

```
config vrrp vrid 104 add track-vrid 100
config vrrp vrid 106 add track-vrid 100
config vrrp vrid 107 add track-vrid 100
config vrrp vrid 108 add track-vrid 100
config vrrp vrid 109 add track-vrid 100
config vrrp vrid 110 add track-vrid 100
config vrrp vrid 111 add track-vrid 100
config vrrp vrid 112 add track-vrid 100
config vrrp vrid 113 add track-vrid 100
config vrrp vrid 114 add track-vrid 100
config vrrp vrid 115 add track-vrid 100
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

show vrrp details

```
show vrrp {vrid [<VRID number> | all]} details
```

Description

Displays detailed status information for VRRP.

Syntax Description

VRID number	The VRID of the VRRP class for which to show details; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

N/A.

Usage Guidelines

The `vrid` parameter to this command allows you to limit the display to the details about the specified VRRP class.

Example

This example shows the full VRRP details.

```
station1:11 # show vrrp details
                                                          Preempt    Advertisement
VRRP       VRID    Priority   State    MAC Address        Mode       Interval
ENABLED    100     100        BACKUP   00:00:5e:00:01:64  DISABLED   1 second

                                                          Preempt    Advertisement
VRRP       VRID    Priority   State    MAC Address        Mode       Interval
ENABLED    101     100        BACKUP   00:00:5e:00:01:65  DISABLED   1 second

   Valid Advertisements Received:                  8310

   Serial Heartbeats Transmitted:                     0
   Serial Heartbeats Received:                        0

VRRP Stats
   Checksum errors:                                   0
   Advertisements Received with Unknown vrid:         0
   Advertisement interval errors:                     0
   IP TTL errors:                                     0
```

This example shows details for VRRP class 100:

```
station2:40 # show vrrp vrid 100 config
                                                                  Preempt     Advertisement
VRRP        VRID     Priority    State    MAC Address           Mode        Interval
ENABLED     100      100         MASTER   00:00:5e:00:01:64     DISABLED    1 second

   Valid Advertisements Received:                      0

   Serial Heartbeats Transmitted:                      0
   Serial Heartbeats Received:                         0

VRRP Stats
   Checksum errors:                                    0
   Advertisements Received with Unknown vrid:          0
   Advertisement interval errors:                      0
   IP TTL errors:                                      0
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

show vrrp gateway-mode details

```
show vrrp {vrid [<VRID number> | all]} gateway-mode details
```

Description

Shows details about the gateway-mode IP addresses in VRRP classes.

Syntax Description

VRID number	The VRID of the VRRP class for which to show gateway-mode details; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

N/A.

Usage Guidelines

The `vrid` parameter to this command allows you to limit the display to the details about the gateway-mode IP addresses in a specified VRRP class.

Example

This example shows details about the gateway-mode IP addresses in all VRRP classes.

```
station1:11 # show vrrp gateway-mode details

        Gateway-mode
Vrid    Ip Address       Vlan
----------------------------
100     10.6.6.3         3757

        Gateway-mode
Vrid    Ip Address       Vlan
----------------------------
101     10.6.6.4         3757
```

This example shows details about the gateway-mode IP addresses in VRRP class 100.

```
station1:12 # show vrrp vrid 100 gateway-mode details

        Gateway-mode
Vrid    Ip Address       Vlan
----------------------------
100     10.6.6.3         3757
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

show vrrp serial-failover

```
show vrrp serial-failover
```

Description

Displays information about VRRP automatic synchronization.

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

None.

Example

This example displays information about serial failover.

```
SummitPx1:11 # show vrrp serial-failover

Serial cable failover: Disabled
Serial heartbeat interval: 500 milliseconds
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

show vrrp server details

```
show vrrp {vrid [<VRID number> | all]} server details
```

Description

Shows details about servers in the VRRP classes.

Syntax Description

VRID number	The VRID of the VRRP class for which to show server details; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

N/A.

Usage Guidelines

The `vrid` parameter to this command allows you to limit the display to the details about the servers in the specified VRRP class.

Example

This example shows details about the servers in all VRRP classes.

```
SummitPx1:11 # show vrrp server details

Total    Total      Up
Vrid     Servers    Servers
-------------------------
112         2       2
113         2       2
114         1       1
115         1       1

         Server     Server           Server
Vrid     Index      Ip address       Port    State
-----------------------------------------------
112      12         10.6.3.206       80      UP
112      14         10.6.3.208       80      UP

         Server     Server           Server
Vrid     Index      Ip address       Port    State
-----------------------------------------------
113      1          10.6.3.195       80      UP
113      13         10.6.3.207       80      UP

         Server     Server           Server
Vrid     Index      Ip address       Port    State
-----------------------------------------------
114      2          10.6.3.196       80      UP
```

```
        Server     Server           Server
Vrid    Index      Ip address       Port    State
-----------------------------------------------
115     1          10.6.3.195       80      UP
```

This example shows details about the servers in VRRP class 100.

```
SummitPx1:11 # show vrrp vrid 100 server details
Total   Total      Up
Vrid    Servers    Servers
-------------------------
100        2       2

        Server     Server           Server
Vrid    Index      Ip address       Port    State
-----------------------------------------------
100     2          10.6.3.196       80      UP
100     4          10.6.3.198       80      UP
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

show vrrp service details

```
show vrrp {vrid [<VRID number> | all]} service details
```

Description

Shows details about services in the VRRP classes.

Syntax Description

VRID number	The VRID of the VRRP class for which to show service details; a number between 1 and 255.
all	Specifies all VRRP classes.

Default

N/A.

Usage Guidelines

The `vrid` parameter to this command allows you to limit the display to the details about the services in the specified VRRP class.

Example

This example shows details about the services in all VRRP classes.

```
SummitPx1:11 # show vrrp service details
                                                          Preempt    Advertisement
VRRP       VRID    Priority   State   MAC Address         Mode       Interval
ENABLED    100     100        MASTER  00:00:5e:00:01:64   DISABLED   1 second

config service vip 10.5.6.81 vrid 100 port 80 protocol tcp l4 server-group-name sg2

config service vip 10.5.6.97 vrid 100 port 80 protocol tcp l4 server-group-name sg4


                                                          Preempt    Advertisement
VRRP       VRID    Priority   State   MAC Address         Mode       Interval
ENABLED    101     100        MASTER  00:00:5e:00:01:65   DISABLED1 second

config service vip 10.5.6.66 vrid 101 port 80 protocol tcp l4 server-group-name sg1

config service vip 10.5.6.82 vrid 101 port 80 protocol tcp l4 server-group-name sg3

config service vip 10.5.6.98 vrid 101 port 80 protocol tcp l4 server-group-name sg5
```

```
                                                          Preempt     Advertisement
VRRP        VRID     Priority    State    MAC Address     Mode        Interval
ENABLED     102      100         MASTER   00:00:5e:00:01:66   DISABLED    1 second

config service vip 10.5.6.67 vrid 102 port 80 protocol tcp l4 server-group-name sg2

config service vip 10.5.6.83 vrid 102 port 80 protocol tcp l4 server-group-name sg4
```

This example shows details about the services in VRRP class 100.

```
SummitPx1:11 # show vrrp vrid 100 service details
                                                          Preempt     Advertisement
VRRP        VRID     Priority    State    MAC Address     Mode        Interval
ENABLED     100      100         MASTER   00:00:5e:00:01:64   DISABLED    1 second

config service vip 10.5.6.81 vrid 100 port 80 protocol tcp l4 server-group-name sg2

config service vip 10.5.6.97 vrid 100 port 80 protocol tcp l4 server-group-name sg4
```

History

This command was available in ExtremeWarePx 1.2.

Platform Availability

This command is available on the Px-series application switch.

uptime

```
uptime
```

Description

Shows the amount of time the switch has been up

Syntax Description

This command has no parameters or options.

Default

N/A.

Usage Guidelines

This command displays the amount of time that has elapsed since system was last rebooted or powered on.

Example

This example shows how long the system has been up.

```
* station2:5 # uptime

Uptime: 0 days 02Hr 41Min 05sec
```

History

This command was available in ExtremeWarePx 1.1.

Platform Availability

This command is available on the Px-series application switch.

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